



JRC TECHNICAL REPORTS

Policy Approaches to Open Education

*Case Studies from 28
EU Member States
(OpenEdu Policies)*

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Title Policy Approaches to Open Education – Case Studies from 28 EU Member States (OpenEdu Policies)

Abstract

This study provides the first-ever EU-wide overview of the state of play with policies on open education involving all the 28 Member States. For each Member State, a full account of their understanding of open education and strategic policy approach is given.

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Foreword

The purpose of this document is to present a state-of-the-art on policies for open education in the European Union, with case studies from all 28 Member States. The diversity of policies and approaches presented herein reflect the diversity that is intrinsic to the European Union. Each Member State has specific goals for education and priority areas to address when formulating its policies. However, this research shows that Member States are aware of open education issues and that in one way or another nearly all of them have implemented some sort of initiative or action plan in relation to open education, even though that goal is not explicit in some cases.

The case studies presented in this report suggest that the European Commission is one of the key players in supporting and promoting open education in Europe. To this end, although the European Commission has limited scope for requesting action from Member States, it has been taking a proactive approach in advising on the importance of open education for the modernisation of education systems in Europe. The European Commission has also been providing tools to support stakeholders in the development of their own open educational strategies (e.g. OpenEdu Framework, Digital Competences Frameworks, open science, open access).

Besides arguing for and supporting open education in the 2013 Communication on open education and in the most recent Communications on school and higher education, the European Commission has also funded various projects on open education via the Horizon 2020 and other research and innovation programmes (e.g. European Open Science Cloud Declaration). Therefore, supporting a Europe-wide research project such as OpenEdu Policies, with the goal of finding out what policies are in place (and if there are none, enquiring as to why), is another initiative aimed at equipping Member States with a knowledge base on open education. It showcases ideas, frameworks and practices, and highlights opportunities for partnerships and knowledge-sharing in the pursuit of supporting an open education ecosystem via policy-making.

This report is therefore another step taken by the European Commission (DG EAC and JRC) to meet Member States' requirements for more research and evidence on open education in support of policy-making in Europe. The case study report forms the basis – together with additional research and expert consultations – for another JRC report entitled *Going Open: Policy Recommendations on Open Education in Europe (OpenEdu Policies)*, which highlights policy options to further open up education in Europe. In addition, earlier published studies such as the *OpenEdu Framework* and related reports can be found at <https://ec.europa.eu/jrc/en/open-education>

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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Executive Summary

The research on open education carried out by the JRC (*OpenEdu Framework* and *OpenEdu Policies*) is a contribution to the European Commission's Communication *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources*¹ (European Commission, 2013). It also contributes to the two most recent Communications, *Renewed Agenda for Higher Education* and *School Development and Excellent Teaching for a Great Start in Life* (European Commission, 2017). In addition, *OpenEdu Policies* aims to contribute to the Education and Training 2020 agenda, which includes open education as one of its new priorities².

All these policies aim to stimulate open and flexible learning in order to provide European citizens with the skills needed in the 21st-century economy and society, and to raise the profile of innovative ways of learning and teaching through ICT, stressing that embedding ICT and OER in education will increase both the efficiency and fairness of education and training in Europe.

In order to achieve these ambitious goals, **effective open education policies are needed**. Taking into account the different understandings of the concept of *open education* that exist in the different European Member States, and recognising the different approaches in place, this study shows the types of policies that are in place across the EU.

This study was run by the European Commission's Joint Research Centre (JRC) in collaboration with the Research Institute for Innovation & Technology in Education (UNIR iTED³) at the Universidad Internacional de la Rioja (UNIR⁴). It is part of the *OpenEdu Policies* project⁵ and accompanies the JRC Science for Policy report *Going Open – Policy Recommendations on Open Education in Europe (JRC 2017)*. This report covers the 28 Member States⁶ of the EU: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, Romania, Slovakia, Sweden, and the United Kingdom.

The study:

- Identifies and analyses, through desk research, national-level policies which focus on open education, or which contribute to opening up education by making a specific contribution to one or more of the 10 dimensions of open education from the *OpenEdu* framework⁷;
- Explores, through a number of interviews with policymakers and experts, perceptions of what national and EU policies are needed and of possible barriers and enablers to national and EU policies on open education;

¹ http://europa.eu/rapid/press-release_IP-13-859_en.htm

² http://europa.eu/rapid/press-release_IP-15-5568_en.htm

³ <http://ited.unir.net>

⁴ <http://www.unir.net>

⁵ <https://ec.europa.eu/jrc/en/open-education>

⁶ We are of course aware that there is OER activity and indeed policy work in some non-EU European countries in the European Higher Education Area, with Norway and Switzerland the most obvious examples. For other examples see <http://education.okfn.org/world/> – but non-EU European countries were not in scope for this study.

⁷ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening up Education: A Support Framework for Higher Education Institutions* (pp.24-30). JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408.

- Presents the analysis of the results of both the desk and field research, making reference to issues faced by decision-makers when planning policies on open education;
- Brings a set of topics for policy suggestions at the EU and at the Member State levels, elicited by research participants.

The study provides the first-ever EU-wide overview of the state of play with policies related to opening up education in the 28 Member States (MS). For each MS a brief overview is given of the open education situation in the country, one or two relevant policies (and in most MS they do exist), and finally an interview with one or two policymakers or policy-aware experts from the country, ideally chosen from the most relevant ministry or national agency.

The country section is followed by a section of analyses and tabulations looking at the correspondence between policies and the OpenEdu Framework, policy implementation and impact to date, key barriers and enablers during implementation, and the relation between the policy and the EU-level developments.

The work has covered the 28 countries of the European Union (EU): Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Finland, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom. The selected policies range across all educational sectors (school, higher education, VET and adult learning).

Based on the study results, we identified **four types of policies**:

- Policies focusing specifically on opening up education through the promotion of open educational resources (OER) and open educational practices (OEP);
- Policies relating to general ICT (Information and Communication Technologies) for learning with some open education component;
- Comprehensive strategic educational policies with some open education component;
- Policies designed as National Open Government Plans with some open education component.

The identified policies have been analysed using the **OpenEdu Framework** produced by JRC⁸, which identifies six core dimensions of open education (Access, Content, Pedagogy, Recognition, Collaboration and Research) and four transversal dimensions (Strategy, Technology, Quality, Leadership). The great majority of the policies analysed target a number of these openness dimensions, including in many cases some of the transversal dimensions, showing that the understanding of open education on the part of the majority of European policymakers – though not all of them – extends far beyond OER and open content. The *collaboration dimension*, for example, was referred to as being very important in a number of interviews (e.g. by Finland, Italy, Romania and Scotland), showing a certain degree of maturity in the understanding of the process of opening up education.

⁸ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening up Education: A Support Framework for Higher Education Institutions*. JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408.

Policy **impact** was a focus of the study. In general terms most of the policies are too recent to have had much evidence-based impact. In addition, some countries like Germany and the Netherlands had substantial activity before there was a relevant policy in place and it is difficult to disentangle the effect of the policy from the general volume of activity. In each case, when evidence-based impact was reported, this is recorded in the interview reports.

Another major interest of the study were the main barriers that can prevent open education policies (or, for countries where there is no policy, open education initiatives) from fully succeeding, as well as the potential enablers for open education. The research team believes in fact that understanding the barriers and enablers to open education can help policymakers who are both currently running policies and planning future initiatives in the field to better steer their actions. The main **barriers** identified by the interviewees are: low ICT-readiness, low policy priority assigned to open education, fragmentation of initiatives, lack of institutional support, resistance to cultural change, lack of awareness about open education, low open education capacity within the teaching population, and the absence of an open licenses national recognition scheme. The main **enablers** for open education to thrive, in the eyes of the interviewees, are: a clear policy priority assigned to open education, both at Member State and EU level; awareness-raising on open education, targeting leaders and educators; capacity-building on open education for educators and other stakeholders; measures to empower educators; and online platforms and advocacy communities.

In terms of **relations between the national and EU level**, all Member States considered that their policies and initiatives are in line with EU education policy priorities. However, even if most of the interviews stated that coherence exists between their national policy and the EU agenda in the field, **further dissemination of the European Commission's policies and investments in open education was described as an essential action to be taken**. This would motivate MS representatives to make more visible their activities on open education.

Finally, the various lessons learned and suggestions made by the interviewees in the country reports have been analysed and grouped in a way informed by the dimensions of the *OpenEdu Framework*, and discussed to include the usual dimensions of EU action such as research, dissemination and funding.

Key conclusions

Most MS have implemented some kind of initiative with regard to open education, but there is still a long way to go. In most MS the vision of open education is rather broad, going beyond OER and open content – even if in a number of MS, when this vision is applied to actual policy, the approach is still limited to OER. Specifically, most of the analysed policies and initiatives cover many of the dimensions from the *OpenEdu Framework*, with an important role for the collaboration dimension (this finding is corroborated by the fact that a good number of policies result from open stakeholders' consultations and provide a rather active role for stakeholders).

In addition, if MS and the EU wish for greater progress – and in a more uniform way – in the open education field, then steps will have to be taken by the EU to both increase awareness of open education and increase the frequency of studies and peer-learning activities among MS. What emerged from the study is in fact that, due to the vagaries of project-based funding, rather a large number of MS had not looked at such issues for many

years. A more systematic approach, such as a kind of regular “open education census”, would be needed, preferably carried out in some kind of MS-EU partnership.

Actions aiming at opening up education can be found in **four typologies of policies**: a) policies focusing specifically on opening up education through the promotion of OER and OEP; b) policies relating to general ICT for learning with some open education component; c) comprehensive strategic educational policies with some open education component; and d) policies built up as National Open Government Plans with some open education component.

Quick guide

This report **accompanies the Science for Policy report *Going Open: Policy Recommendations on Open Education in Europe*** (OpenEdu Policies), which sets out policy suggestions elicited via focus groups with Member States. For policy recommendations at an institutional level (e.g. universities), see the report *Opening Up Education: A Support Framework for Higher Education Institutions* (JRC, 2016).

Policy context

The JRC research on open education supports the European Commission’s Communication *Opening Up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources*⁹ (EAC, 2013) along with the most recent Communications *Renewed Agenda for Higher Education and School Development and Excellent Teaching for a Great Start in Life* (EAC, 2017). OpenEdu Policies is also framed in support of the Education and Training 2020 agenda, which includes open education among its new priorities¹⁰.

⁹ http://europa.eu/rapid/press-release_IP-13-859_en.htm

¹⁰ http://europa.eu/rapid/press-release_IP-15-5568_en.htm

1 Introduction

The goal of the study *Policy Approaches to Open Education in Europe: Case Studies from 28 Member States (OpenEdu Policies)* was to find out which specific policies on open education are in place in European countries. At the same time, by eliciting the different perspectives, barriers and challenges to having such specific policies, the study aims to provide evidence that will contribute to a greater understanding of the development of open education in Europe. This report accompanies the JRC Science for Policy Report *Going Open: Policy Recommendations on Open Education in Europe (OpenEdu Policies)*.

The study:

- Identifies and analyses, through desk research, national-level policies which focus on open education or which contribute to opening up education by making a specific contribution to one or more of the 10 dimensions of open education¹¹;
- Explores, through a number of interviews with policymakers and experts, perceptions of what national and EU policies are needed and of possible barriers and enablers to national and EU policies on open education;
- Presents the analysis of the results of both the desk and field research, making reference to issues faced by decision-makers when planning policies on open education;
- Brings a set of topics for policy suggestions at the EU and at the Member State level, elicited by research participants.

The study covers the 28 countries of the European Union: Austria (AT), Belgium (BE), Bulgaria (BG), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Germany (DE), Greece (EL), Hungary (HU), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), Netherlands (NL), Poland (PL), Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), and the United Kingdom (UK).

This study contains:

- A summary of the interview (occasionally, more than one interview) for each country, preceded by relevant overview information on the country that arose during desk research and discussions with experts;
- An analysis of the desk research and of the interview results;
- A set of topics for policy suggestions at the EU and Member State level.

¹¹ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening Up Education: A Support Framework for Higher Education Institutions*. JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408.

The study has identified 18 policies, presented below¹²:

Table 1. Overview of the identified policies

Country	Name of policy	Type of policy ¹³	Sector	Level	Status
Croatia	Strategy of Education, Science and Technology	General education policy	All sectors	National	Ongoing
Cyprus	Digital Strategy for Cyprus	Policy for ICT in education	School education	National	Ongoing
Czech Republic	Strategy for Education Policy until 2020	General education policy	School and Adult Ed	National	Ongoing
Estonia	Estonian Lifelong Learning Strategy 2020	General education policy	School and Higher Ed	National	Ongoing
France	FUN MOOC	Specific open education policy	Higher education	National	Ongoing
France	PIX	Policy for ICT in Education	All sectors	National	Ongoing
Germany	Advancement through Education: Open Universities 2011-2020	Specific open education policy	Higher Ed and Adult Ed	National	Ongoing
Germany	OER Info	Specific open education policy	School and Higher Ed	National & Regional	Ongoing
Greece	3rd National Action Plan on Open Government 2016-2018	Open Government Action Plan	All sectors	National	Ongoing
Ireland	National Forum for the Advancement of Teaching and Learning in Higher Education	General education policy	Higher Education	National	Ongoing
Italy	National Plan for Digital School	Policy for ICT in education	School education	National	Ongoing
Lithuania	Activity Plan for ICT Implementation in General and Vocational Education 2014-2016	Policy for ICT in education	School education and VET	National	Closed
Malta	National Lifelong Learning Strategy 2014-2020	General Education Policy	Post-secondary education	National	Ongoing
Netherlands	HO2025, de waarde(n) van weten – The value of knowing	General education policy	Higher education	National	Ongoing
Poland	OP KED – Operational Programme for Knowledge Education Development	General education policy	All sectors	National	Ongoing
Portugal	Tell us a story	Policy for ICT in Education	School education	National	Ongoing
Romania	National Open Government Plan (Virtual School Library and OER)	Open Government Action Plan	School Education	National	Ongoing
Slovakia	Open Government Partnership Action Plan 2015	Open Government Action Plan	School Education	National	Ongoing
Slovenia	Opening Up Slovenia	Specific open education policy	All sectors	National	Ongoing
Spain	Plan de Cultura Digital en la	Policy for ICT in	School	National	Ongoing

¹² For Austria, Bulgaria, Denmark, Finland, Hungary, Latvia, Luxembourg, Malta, Portugal and Sweden, the study could not identify any specific policy aimed at to opening up education; the absence of such a policy has been discussed during the interviews.

¹³ This classification is presented in Section 4.2.

Country	Name of policy	Type of policy ¹³	Sector	Level	Status
	Escuela	Education	Education		
UK (England)	Higher Education Funding Council national OER programmes 2009-15	Specific open education policy	Higher Education	Regional	Closed
UK (Scotland)	Open Educational Practices in Scotland (OEPS)	Specific open education policy	Higher Education	Regional	Ongoing

Interviews have been carried out in 28 countries: in the cases of countries where it was not possible to identify a relevant policy, the interview focused on the reasons for the absence of such a policy and on the general state of the art of open education in the country.

Although the ultimate goal was to interview representatives from the national authorities, and every effort was made towards that end, in some cases the interview was carried out with experts or advisors to the ministries. This was due mainly to the low rate of response to the interview invitation on the part of the targeted stakeholders at the ministries. The list of interviewees is presented in the acknowledgments section.

2 Methodology

The following data collection and analyses have been carried out:

- **Desk research:** review of existing reports¹⁴, contact and interaction with experts¹⁵, further research for each country in order to select the most relevant policy (in those cases where there were several) or justify their absence;
- **Field research:** identification of one or more potential interviewees per MS and carrying out of online interviews with a reference person involved in the design, implementation or assessment of the policies identified (or, in a few cases, senior experts, for example in universities, with in-depth knowledge of such policies);
- **Results integration:** analysis of desk and field research results, further searches for information (when needed), and conclusions from the data gathered.

Existing reports (as recent as could be found) were used to understand the historical situation in relation to open education in each MS. That situation was then updated by new desk research and discussions with experts in the MS. The main value of the existing reports was mainly to indicate projects, policies and experts; no use was made of any conclusions from these reports. Ongoing data collection projects such as the OER World Map¹⁶, OpenDOAR¹⁷ and the Distance Learning Portal¹⁸ were used to gather up-to-date quantitative information. However, the degree to which stakeholders in MS inform these projects about changes and updates is very variable – thus, as with many other studies, the qualitative research carried out in this case was able to identify more information than the quantitative data suggested.

2.1 Approach to the selection of policies

The working definition of **open education** for this study is the one presented in the OpenEdu study by the JRC-EAC: “Open education is 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, 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.” In line with this definition, the selected policies for analysis have some of the following characteristics: a) they aim to widen access to and participation in education, b) they promote multiple ways of teaching and learning, c) they explore access routes to formal and non-formal education, and connect the two, or d) they support recognition of non-formal learning.

In terms of **priority**: first are policies fostering Open Educational Content (OER) and Open Educational Practices (OEP); second, policies for ICT in education, which contain elements of openness; third, policies for Lifelong Learning with elements of Recognition of Prior

¹⁴ See Chapter 8 for a list of references.

¹⁵ See Annex 2 for the list of experts.

¹⁶ <https://oerworldmap.org/>

¹⁷ <http://www.opendoar.org/>

¹⁸ <https://www.distancelearningportal.com/>

Learning; and fourth, policies for open access and open government, when they affect education.

In terms of **timescale and maturity**, the focus has been on policies running concurrently with the study, or the ones launched in the previous 3-5 years. If they are particularly relevant, policies have also been included that: a) are no longer running (if there were interesting elements in the reasons for their closure) or b) are present in approved policy documents but have not been formally launched yet.

In terms of **coverage**, all the 28 target countries were addressed. For countries where it was not possible to find a policy fitting the above description, this was explained in the respective country section, with the lack of open education policies being a relevant indicator in the frame of the study. For the few countries with more than one policy on open education, two policies were selected.

2.2 Approach to interviews

The following considerations have been taken into account in the design and carrying out of the interviews. First, open education policies, whatever their scope, are to be considered in relation to wider educational and socio-economic policy aims. Second, initiatives at the local level often respond to context-specific needs but might be able to scale up if they respond effectively to wider educational and socio-economic priorities. Third, the level of autonomy/centralisation of education and training systems strongly influences the dynamics and features of decision-making, implementation and evaluation of policies. Fourth, the political actors involved in the process tend to strongly influence the policy cycle evolution, based mostly on their own personal vision of the world. Last, the stakeholders (trade unions, students' associations, etc.) and beneficiaries (teachers, students) often play a key role in determining how successful the policy is.

During the interviews, the *perceptions* of policymakers were also relevant, especially with regard to:

- Current initiatives and plans for future initiatives;
- Challenges and barriers encountered in existing policies;
- Key enablers for implementation, the actors involved, and the role played by beneficiaries and stakeholders in enhancing (or not) the effectiveness of the policy;
- Actual and potential role of European policies and funding schemes;
- Feasibility of inter-country policies that foster open education (mainly between countries where the same language is spoken);
- Relationship between national policies and EU frameworks;
- Unexpected developments associated with the implementation of the policy;
- Lessons learned from implementation and evaluation of the policy.

2.3 Approach to integration and analysis

The *case studies* look into the details of what policies are needed and how best to formulate them. Therefore the aim of the topics for policy suggestions contained in this report is to provide evidence-based suggestions on policies and measures aiming to open up education.

The focus on topics for policy suggestions has been a concrete and pragmatic exercise, based on the findings emerging from the analysis of actual policies and especially from the critical analysis of issues emerging during the interviews. Furthermore, the identified policies have been analysed in accordance with the dimensions of the *OpenEdu Framework* produced by JRC¹⁹, to allow an appreciation of the richness of open education approaches beyond the promotion of OER.

¹⁹ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening Up Education: A Support Framework for Higher Education Institutions*. JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408.

3 Countries' desk Research, Analysis and Summary of the Interviews

This chapter presents a country-by-country overview of open education policies. Each country case is organised as follows:

- an overview on the state of the art of open education in the country (as emerging from desk research and consultation with national experts);
- a presentation of the selected policy for the country, outlining its main features;
- a summary of the interview(s) results for policymakers and/or experts.

It should be highlighted that for some countries (Austria, Bulgaria, Denmark, Finland, Hungary, Latvia, Luxembourg, Sweden) no policy was found that met the criteria specified in the methodology chapter. In those cases, therefore, the policy ID card is missing, and the interview focused on the general state-of-the-art of open education in the country and on possible future policies and initiatives in the field.

3.1 Austria (AT)

Open education in the country

Austria has some activity in ICT in schools and in higher education, in particular with distance learning delivered from Danube University Krems²⁰ and some other providers, though most are blended rather than fully online²¹. However, the country is not particularly active in OER or MOOCs. On the other hand, open access development (related to the research dimension of the *OpenEdu Framework*) is substantial – the OpenDOAR portal reports²² 28 open access repositories from Austria.

The overall context for education reform is set by the *National Reform Programme* document²³ of 2015. It cites EU recommendations to work on “recognition of migrants’ qualifications”, and at the school level to:

Improve educational outcomes in particular for disadvantaged young people including those with a migrant background, by enhancing early childhood education and reducing the negative effects of early tracking.

And at university level to:

Further improve strategic planning in higher education and enhance measures to reduce dropouts.

The *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools* reported in 2015 on Austria²⁴, but made no mention of OER, open education or MOOCs. The ENIC-NARIC 2015 report²⁵ *Higher Education in Austria* similarly makes no mention of such features but does contain material on distance education, noting in a specific section (3.2.7) on distance learning that (p.29):

The use of new media is of central significance in this connection. The University of Linz, for example, has been offering law studies with multimedia support as a distance-learning programme since the winter semester of 2001.

It also makes specific reference (p. 11) to DU Krems (and then notes cross-border activity with the FernUniversität²⁶ in Germany):

The University for Continuing Education Krems (Danube University Krems) is a university facility of a special kind, having its own legal basis (Act on the Danube University Krems), adopted in 1994. It is a corporation under public law with far-reaching self-administration and serves the goal of post-graduate training and further training.

There is relevant policy-driven activity in ICT in schools (efit21) and relevant policy formulation underway for the university sector.

efit21 – digitale Bildung (digital education for schools)

The policy-driven activity with a focus on ICT in schools originates from the Federal Ministry for Education²⁷ (Bundesministerium für Bildung, BMB). The policy started in 2012 and is called Efit21 – digitale Bildung (digital education).

²⁰ <http://www.donau-uni.ac.at/en/>

²¹ But see the University of Salzburg offering at <http://salzburg.unigis.net>

²² <http://www.opendoar.org/find.php?cID=15&title=Austria>

²³ http://ec.europa.eu/europe2020/pdf/csr2015/nrp2015_austria_en.pdf

²⁴ https://www.oecd.org/edu/school/2016%2006%2014%20OECD_Country%20Background%20Report%20AT%20FINAL.pdf

²⁵ http://wissenschaft.bmwf.gv.at/fileadmin/user_upload/wissenschaft/naric/The_Austrian_System_of_Higher_Education2015_engl.pdf

²⁶ <https://www.fernuni-hagen.de/regionalzentren/ausland.shtml>

²⁷ <https://www.bmb.gv.at>

This policy²⁸ puts the focus on the integration and use of new information and communication technologies in Austrian education facilities. In doing so, the following goals are being pursued.

- Through the use of ICT, the quality of teaching and learning should be improved in a targeted manner.
- Young people and adults should be taught the necessary digital competences for personal, professional and social success.
- ICT training in schools should impart labour-market-relevant skills and education- or job-related e-skills.
- The use of ICT in educational administration should improve efficiency and promote sustainable modern organisation.
- The further integration of society should be facilitated. To that end it proposes that barriers to the use of ICT should be removed in order to make their potential accessible to everyone, and thus improve overall social integration and participation.

As it turned out, however, due it seems to a process of reorganisation in the Ministry, it was not possible to find a relevant person to talk “on the record” about this policy.

ICT in higher education

Fortunately, conversations with experts had indicated that the Federal Ministry for Science and Research wished to set up a framework that encourages higher education institutions to develop their own materials and make them available to all students. An interview was organised with the relevant person.

Interviewee

Mag. Helga Posset, member of staff of the expert unit on higher education development, Federal Ministry for Science, Research and Economy

Interview results

Vision of open education in the country; role of the Ministry

The development of a strategic paper concerning digitisation and Open Education, the so-called *Digital Roadmap Austria*, is a task undertaken by the Federal Government, coordinated by the Secretary of State in the Federal Chancellery and the Secretary of State of the Federal Ministry of Science, Research and Economy²⁹ together with the Federal Ministry of Education (bmb). This paper is still under development³⁰, and includes a chapter on higher education for which the Ministry of Science, Research and Economy is responsible. In Higher Education, open education is seen as a very important topic, not only because of technological challenges but also because of challenges in teaching, curricula design, and the inclusion of “new learners”. A number of departments within the Ministry are connected with open education, dealing with public universities³¹, private

²⁸ <http://www.efit21.at/en/>

²⁹ <http://www.en.bmwf.gv.at/Seiten/default.aspx> – it is a new Ministry – <http://www.en.bmwf.gv.at/Ministry/Seiten/TheMinistry.aspx>

³⁰ See <https://www.digitalroadmap.gv.at/de>

³¹ <http://wissenschaft.bmwf.gv.at/home/science-higher-education/universities/>

universities³², and universities of applied sciences³³, or focusing on teaching, in particular digitisation, blended learning and OER. In 2016 the Forum Neue Medien in der Lehre Austria (New Media Forum in Teaching Austria) published a study examining the Austrian E-learning Landscape in Higher Education. It describes the status quo but also gives concrete suggestions for further policy measures³⁴.

Policy design and stakeholders involved

At the moment a new strategy to increase access and participation in higher education, namely the Austrian National Strategy for the Social Dimension in Higher Education – Widening Access and Participation, is being written, with open education having been identified as a possible tool to support the widening of access and participation. During the development of the strategy, the ICTs in HE, open education and open educational resources were (among many other issues) examined and identified as potential tools and areas for policy measures in order to support the social dimension in higher education.

This strategy, which resulted from a consultation that took place from February to December 2016, was made public as a White Paper in the spring of 2017. Independently from the possibility of funding, the Ministry will implement a number of measures that have emerged as important from the consultation, such as services for student information, student counselling, curriculum design, and identification of and support for problematic target groups.

A first implementation workshop (called “Bologna Day”, 23rd March 2017, at the University of Linz) was organised with a number of higher education stakeholders to plan detailed activities, set priorities, raise awareness, and mainstream actions in line with the social dimension of higher education. This included an international peer-learning activity³⁵ to which representatives were invited from other countries that are preparing similar strategies.

Expected challenges and enablers for open education

A first expected challenge to be overcome is the fragmentation of existing initiatives. There are quite a few open education initiatives in Austrian universities that function in their local context, but there is nothing that works on a national scale where multiple players are involved. To move up to the national scale, more funding and a more strategic approach would be needed. Capacity- building for professors is also a challenge: lecturers need to be trained, and for that purpose better institutional and inter-institutional coordination is necessary since it is not always clear who is in charge of supporting professors when it comes to OER and open education.

In terms of enablers, seven policy measures for higher education are recommended in the study mentioned above³⁶:

- Strategic planning of e-learning;
- Establish incentives;
- Further training of the teaching staff;

³² <http://wissenschaft.bmwf.gv.at/home/science-higher-education/private-universities/>

³³ <http://wissenschaft.bmwf.gv.at/home/science-higher-education/universities-of-applied-sciences/>

³⁴ http://www.fnm-austria.at/fileadmin/user_upload/documents/Buecher/2016_fnma-OER-Empfehlungen_final.pdf

³⁵ This is one of the few situations where cross-border activity has been flagged in the interviews

³⁶ http://www.fnm-austria.at/fileadmin/user_upload/documents/Buecher/2016_fnma-OER-Empfehlungen_final.pdf, p. 14.

- Support innovative concepts of teaching and learning;
- Support inter-institutional cooperation between higher education institutions;
- Provide funding.

Relation between policy and EU-level developments

The unit in charge of open education within the Ministry follows the initiatives at the EU level, trying to guarantee coherence between actions at the national level and those at the EU level.

Lessons learned and suggestions for future open education policies

First, the interviewee argued that for Austria to properly establish a policy in the field of open education, further desk research will be needed because a lot of things are happening institutionally, nationally and internationally.

Second, the interviewee stated that it is important to look into “who is doing what” at institutional level and nationally, and who can be brought together in order to facilitate decisions and to understand the areas that need to be focused on. This would help establish an understanding of which structures are needed, and at what level, in order to guarantee implementation of the policy measures that have been agreed upon.

Third, policymakers must be open to different perspectives when they are planning strategies and measures. Different stakeholders need to be involved, and there has to be the necessary boldness to take something of a visionary approach. All the different topics, areas of development and actors in higher education have to be taken into consideration, e.g. the relevance of digitisation for the social dimension in higher education.

3.2 Belgium (BE)

Open education in the country

Belgium comprises three communities: Flemish-speaking (covering Flanders and Brussels), French-speaking (Wallonia and Brussels) and German-speaking (a small area in the east of the country). This case study focuses only on the Flemish community (Flanders).

Open and online education are not in themselves a policy objective in Flanders; instead they are approached in the context of other HE policy objectives with regard to accessibility and flexibility, lifelong learning and innovation, where they are seen as a tool that contributes to improving flexibility and innovation. Open and online education in Flanders are also aimed at developing learning paths for mature students and for students who are studying and working.

The Flemish regulations with regard to open and online education are highly flexible. HEIs can offer open and online degree programmes entirely online or as a blended provision on the condition that the HEIs develop appropriate teaching and learning materials. There is also the possibility of extra funding for students who are combining work and learning.

The Royal Academy of Sciences produced a report³⁷ on blended learning in 2015, based on the work of two “thinkers in residence”: Diana Laurillard (Institute of Education London) and Pierre Dillenbourg (ETH Lausanne). Both authors made recommendations and defined some concrete actions for the further development of open and online education in Flanders.

These recommendations were addressed at government level and discussed with institutions. Currently Flanders is in the process of initiating a dialogue between the institutions and the public authorities on the basis these recommendations.

Some HEIs, meanwhile, have developed their own approach to open and online education, mainly as way to better accommodate the teaching and learning needs of mature students and students who are working while studying. One university has been developing MOOCs.

As for *access*, that is understood as meaning entry to a “traditional” HE course, which would usually be offered face-to-face. Every student who has been awarded the secondary education certificate has access to higher education in any institution of their choosing (with the exceptions of medicine and dentistry, fine arts, performing arts, and music). There is a fee of 906 euros per academic year. Those students who are entitled to a scholarship pay 107 euros per academic year, independently of the course they choose (fees applicable for the academic year 2017-2018). Another entry opportunity to higher education is the close collaboration Flanders maintains with the Open University of the Netherlands (OUNL). The Flemish government provides funding to five Open University study centres in Flanders, connected to the five universities. This is because Flanders does not have an open university of its own. Flemish students can study at OUNL and their degree will be automatically recognised in Flanders.

Interviewee

Noel Vercruyse, Flemish Ministry of Education, former Senior Project Leader for the internationalisation of HE.

³⁷ http://www.kvab.be/sites/default/rest/blobs/104/DP_BlendedLearning_No-time-to-lose.pdf

Interview results

Vision of open education in the country

OE means education that is accessible, with open access for everyone, without restrictions. Openness implies flexibility and the provision of flexible HE learning paths. Openness also means students have access to the materials at home, wherever they are, whenever they want. It also means easy electronic access to research papers and journals. Students would also have opportunities to study in their own pace, at home, and earn a degree afterwards.

However, the interviewee explains that there is neither a strategic policy document related specifically to open online higher education, nor a policy document focusing on ICT for learning with respect to higher education in Flanders. Instead there is *legislation* on HE that 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). In Flanders, therefore, policies on open education (RPL specifically) are embedded into higher-level policies.

It is stated in Flemish law that universities have to comply with recognition conventions when dealing with students' applications for recognition – every applicant has the right to fair judgement and treatment of their demand, whatever that might be (e.g. work experience, MOOC, foreign study experience). There is a CODEX³⁸ (Codex Hoger Onderwijs) of HE, which is a collection of all HE legislation. It was released in 2013 and is a post-factum collection of all the legislation that existed up until then. RPL was introduced in the legislation in 2004.

In theory (i.e. according to the legislation) there are no barriers to HE institutions recognising MOOCs in Flanders, either via formal or non-formal learning, and yet there is no evidence of it happening so far. There is a framework for recognition of prior learning but it is mostly applied to work and other experiences, focusing on mature students. Every five years there is an evaluation of practices within universities and university colleges in relation to recognition of prior learning, also mostly related to work experience. RPL is an academic responsibility and relates to the autonomy of the institutions.

Key barriers and enablers

The interviewee argues that the main challenge is to develop innovative pedagogies in HE, such as new teaching and learning methods and modes based on problem-based learning and project-based learning. He also says that institutions face challenges when it comes to involving international students. Overall, there is room for improvement in the system. Sometimes university colleges are ahead of universities with regard to innovation in HE. More collaboration between teachers and community of practice could be developed, but it is difficult if it is content-related. The digitisation of HE is a broad concept and relates also to the digitisation of administrative processes regarding the students and their study career. The Ministry is in dialogue with the initiators of the Groningen Declaration. The Declaration is about cross-border connecting students' databases so that degrees could be more easily recognised, as well as study periods when students are moving from one country to another. There are more European initiatives and projects in this area.

Lessons learned and suggestions for future open education policies

³⁸ <http://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=14650#13>

The interviewee argues that the government should dialogue with HE institutions to further develop the digitisation of higher education. But there are major challenges in that respect. For instance the transfer and recognition of MOOC credits is not easily achieved, he says. MOOC providers would have to provide transparent and compatible information about the learning outcomes and the level of the MOOC (e.g. whether it fits in a Bachelor or Master's degree programme; whether it represents an introductory course or a specialisation course; the number of credits that could be allocated to it, etc.). Governments, in close collaboration with HEIs, should also work towards the development of a global system for copyright and intellectual property in order to eliminate any ambiguity in this regard, especially from the perspective that most MOOCs and OER are developed with public money and also from the perspective of open access, open innovation and open learning.

According to the interviewee, open and online higher education, as well as MOOCs, should be addressed in the national higher education policy documents (not as an end in itself but rather as a tool for achieving better HE policy objectives) and in the strategy of each institution.

3.3 Bulgaria (BG)

Open education in the country

Bulgaria is rarely the focus of EU projects in the area of open education, and there is little published information on open education in the country. Desk research, including earlier reports or sections (usually very short) in overview reports, has not revealed any relevant recent policies.

The Eurydice report *Modernisation of Higher Education in Europe 2014*³⁹ states that:

With the help of European funding, Bulgaria was able to put in place a number of initiatives to support distance learning in higher education. For instance, within the project "Raising qualification of academic teachers" (2008-2011), more than 250 academic teachers were trained on the use of e-learning and distance learning methods in their specific discipline. Furthermore, a project entitled "Development of electronic forms of distance learning in higher education" is being implemented during 2013-2014.

Bulgarian distance learning activity is now recorded in standard portals⁴⁰ – in particular Varna Free University "Chernorizets Hrabar" (a private university⁴¹ founded in 1991) as offering two online Bachelor programmes in Business and Computer Science respectively, and there are several blended learning offerings including those of D.A. Tsenov Academy of Economics⁴², a public institution founded in 1936.⁴³

There is no record of OER repositories or related activity (by POERUP⁴⁴ or the OER World Map⁴⁵).

There is little activity in MOOCs. However, the first Bulgarian MOOC was registered in the Open Education Europa portal in the second half of 2015, but it was noted that this "is more than 3 years after the majority of the other EU countries" in a useful in-country analytic report on MOOCs⁴⁶ from a researcher at Burgas Free University⁴⁷, a private university).

The OpenDOAR portal records⁴⁸ eight open access repositories in Bulgaria.

Bulgaria has been active in ICT initiatives in schools in the last decade. There have been several university and virtual schools initiatives, such as the Bulgarian Virtual University⁴⁹ launched in 2004⁵⁰ and the First Bulgarian Online School⁵¹ launched in 2005.

Bulgaria faces many challenges in education. The *Education and Training Monitor 2015* country report⁵² states that:

³⁹ http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/165en.pdf – and repeated in other reports including *Adult Education and Open Education Resources* (European Parliament, 2015, p. 132, [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU\(2015\)563397_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU(2015)563397_EN.pdf))

⁴⁰ Search for "Bulgaria" at <http://www.distancelearningportal.com>

⁴¹ http://vfu.bg/en/about_us/

⁴² <http://www.mastersportal.eu/studies/54560/financial-management.html> and <https://www.uni-svishtov.bg/?page=page&id=184>

⁴³ <https://www.uni-svishtov.bg/?page=page&id=184>

⁴⁴ http://poerup.referata.com/wiki/Open_Education_Initiatives_-_by_country – information collected up to mid-2014.

⁴⁵ <https://oerworldmap.org/country/bg>

⁴⁶ "THE EUROPEAN INITIATIVE FOR MASSIVE OPEN ONLINE COURSES /MOOCS/ AND THE CHALLENGES FOR ITS IMPLEMENTATION IN BULGARIA", *Business Research*, 2016, http://www.bposoki.bg/uploads/posts/zeleva_en.pdf

⁴⁷ <http://www.bfu.bg/en/za-bsu>

⁴⁸ <http://www.opendoar.org/find.php?cID=34&title=Bulgaria>

⁴⁹ http://www.virtualschoolsandcolleges.eu/index.php/Bulgarian_Virtual_University

⁵⁰ <http://www.bvu-bg.eu/index.php?Clip=proekt&lng=eng>

⁵¹ http://www.virtualschoolsandcolleges.eu/index.php/First_Bulgarian_School and <http://bulgarian-online-school.com/?lang=en>

⁵² http://ec.europa.eu/dgs/education_culture/repository/education/tools/docs/2015/monitor2015-bulgaria_en.pdf

It still needs to improve the overall quality and efficiency of its school education system and the capacity of higher education to respond to labour-market needs. Access to education for disadvantaged children, in particular Roma, is an ongoing challenge. The quality of VET in Bulgaria is insufficient, including in terms of its integration into the general education system. The rate of adult participation in learning is among the lowest of the EU.

Various measures have been undertaken, the report suggests. In particular (p.6):

In 2014, Bulgaria adopted its 2014-2020 strategy for the effective implementation of ICT in education and science. The first phase of the strategy (e-learning) was launched in May 2015. The strategy aims to create a unified system for ICT use in schools, higher education and science.

Development of electronic forms of distance learning in higher education

The material is paraphrased from the web page⁵³.

A closing meeting of the project *Development of Electronic Forms for Distance Learning and Setting up a Virtual Library* at Todor Kableshkov University of Transport, Sofia was held in October, 2014. The project was developed as one project within the Operational Programme BG051PO001-4.3.04 *Development of Electronic Forms of Distance Learning in Higher Education*. The project funding amounted to BGN 530,995,⁵⁴ financed by a grant under Operational Programme *Human Resources Development 2007 – 2013*, co-funded by the European Social Fund. The project implementation period was 24 months.

The project objective was to promote the lifelong learning process via the development of electronic forms of distance learning at the university as an opportunity to improve professional skills and competences without prolonged absence from work. A total of 32 lecturers and experts participated in the project. A number of activities, the overall purpose of which was to develop and modernise the Lifelong Learning Centre, were carried out during its implementation.

Within the same Operational programme at Sofia University St. Kliment Ohridski, eight projects were developed in different scientific areas (Mathematics and Computer Science, Slavic languages, Classical Languages, Philosophy, History, Economic and Business, Pedagogy). During the course of these projects more than 400 university professors were trained to develop and deliver online distance courses, with more than 100 courses developed in ten faculties. As a visible result of these projects, in 2016 Sofia University received accreditation to deliver online distance education.

Recent higher education reform measures

The aforementioned *Country Report* states (p.8):

In February 2015, Bulgaria's National Assembly approved the strategy for the development of higher education and accompanying action plan. The strategy identifies specific problematic areas relating to the quality and compatibility of Bulgarian higher education with other European higher education systems. The strategy provides a SWOT analysis of the Bulgarian higher education system and flags up a number of shortcomings, which include: an imbalance between university autonomy and state control; outdated syllabuses and curricula; a "supply and demand" mismatch between higher education and labour-market needs; a low level of research output in some universities; insufficient outgoing and poor incoming mobility of students and university teachers.

In May 2015 the Ministry of Education and Science published a draft amendment of the Higher Education Act, proposing a number of changes including the identification of priority professional fields and protected specialisations (i.e. specialisations important for socioeconomic development but not very attractive for applicants).

None of these have an explicit link to ICT in higher education. On the other hand, further down page 8 the *Country Report* states (our emphasis):

Bulgaria has implemented a number of projects using funding from the European Social Fund (Human Resource Development Operational Programme). These include the *System for qualification and career development of the academic staff in higher education institutions*

⁵³ <https://old.vtu.bg/en/index.php?track=491>

⁵⁴ €271,695 according to the exchange rate at the time of writing.

project, aimed at the further development of the existing system for the qualification and career development of academic staff, providing continuing education in key fields such as foreign languages and using information and communication technology in the training process;

Therefore some policy “paths” towards ICT and open education do exist, if the country wishes to take them.

Interviewee

Eliza Stefanova, Vice-rector of Information Activities, Academic Staff and Administration, Sofia University

Interview results

Vision of open education in the country

A general vision/policy on open education does not exist in Bulgaria, but a number of projects and a general bottom-up movement were mentioned.

Three to four years ago, some operational programmes related to developing e-learning in order to make education more accessible for people in isolated regions were launched, and these had an impact on access to higher education. Currently there is an initiative targeting computer scientists, aiming at facilitating capacity-building to allow students to produce and use online materials. A number of open online materials have been developed, mostly in Bulgarian.

Some initiatives on OER exist. At Sofia University, for example, video lectures for a couple of courses were recorded and put on YouTube with transcripts. The students’ response was very positive and they are asking for more open materials.

A bottom-up movement also exists, composed of NGOs and foundations and also students and professors, who are pushing to open up educational materials.

Finally, there is international collaboration with institutions in other EU countries (for example with the Netherlands, through the Open University of the Netherlands), mainly in Information Technology and pedagogy.

Key barriers and enablers during implementation

A first important barrier has to do with language: most of the open materials produced in the country are in Bulgarian, which limits access by students from other countries; and also some students have difficulties in accessing materials in English, especially those who have not studied English at school. Teachers in general prefer to use materials in Bulgarian, although younger teachers are comfortable with English as well.

Another barrier is that there are no open institutional repositories in which to store OER. Moodle is often used but it is only for students, and not open to the general public.

Teachers’ attitudes are also an issue: they tend to resist openness because they are afraid that if they open their lessons it would decrease the importance of their own role and hence also potentially reduce their salaries.

Lessons learned and suggestions for future open education policies

The interviewee stated that having an open education policy at the national level would be important since this would allow university leaders to push for change and would increase

access to education in the country at different levels. The EC could increase the chances of this being adopted as a priority in the country by proposing examples from other countries, she argues.

The interviewee also noted that financial resources are an issue: it would be good to allocate existing EU funds to ICT for learning and open education, as was done in the past.

Finally, she mentioned that substantial capacity-building for teachers and for institutional policymakers would be needed in order to allow change to take place.

3.4 Croatia (HR)

Open education in the country

As with Bulgaria, there is not much published information on developments in education in Croatia. There was a burst of education reform activity around ten years ago, and some of the more recent initiatives are described in a national report⁵⁵ from 2011. Unlike in its neighbour Slovenia, there does not seem to be any specific open education policy, nor is there any specific ICT in education policy. There is no distance-learning programme⁵⁶ for Croatia listed on the Distance Learning portal.

OER repositories or related activity are not recorded (by POERUP⁵⁷ or the OER World Map⁵⁸). There is little known about activity in MOOCs. A Croatian academic recorded in her 2016 report⁵⁹ that “there are not many Open Educational Resources in Croatia and there is only one MOOC course in the Croatian language”. On the other hand, the OpenDOAR portal records⁶⁰ 21 open access repositories in Croatia.

More generally, there is a new policy on *lifelong learning* to focus on: *Nove boje znanja* – Strategy of Education, Science and Technology.

Policy/initiative overview	
Policy title	Nove boje znanja Strategy of Education, Science and Technology
Policy URL	https://vlada.gov.hr/highlights-15141/archives/strategy-of-education-science-and-technology-nove-boje-znanja/17784
Description of the policy	<p>The main goals of the Strategy are:</p> <ul style="list-style-type: none"> • Quality education available to everybody under equal conditions. • Lifelong learning as a principle on which education is based. • Curriculum reform in pre-tertiary education. • In higher education, study programmes will be enhanced and the foundations of the Bologna reform will be consistently implemented • Securing preconditions for the increased participation of adults in the lifelong learning processes. <p>The Strategy is said also to emphasise the importance of using information and communication technologies in education, fostering the implementation of e-learning and other modern methods of teaching based on ICT and the development of open educational resources.</p>
Policy institution	Inter-ministerial committee
Policy date	2014
Policy status	Current
Language	English (for summary document)
Policy jurisdiction	National
E&T sectors	School education, Higher education, VET, Adult learning

Policy/initiative overview	
Dimension of impact	Core dimensions <input type="checkbox"/> Access

⁵⁵ <http://www.erisee.org/downloads/2013/2/b/2011%20NATIONAL%20REPORT%20OF%20THE%20REPUBLIC%20OF%20CROATIA%20-%20Contribution%20to%20the%20report%20on%20ET2020%202011%20ENG.pdf>

⁵⁶ <http://www.distancelearningportal.com>

⁵⁷ http://poerup.referata.com/wiki/Open_Education_Initiatives_-_by_country – information collected up to mid 2014.

⁵⁸ <https://oerworldmap.org/country/hr>

⁵⁹ “Advantages and Limitations of Usage of Open Educational Resources in Small Countries”, *International Journal of Research in Education and Science* Vol. 2, Issue 1, Winter 2016 –

<https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/5000123134-5000259500-1-PB.pdf>

⁶⁰ <http://www.opendoar.org/find.php?cID=34&title=Bulgaria>

	<input type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> <input type="checkbox"/> Strategy <input type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Leadership
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Interviewee

Sandra Kučina Softić, Assistant Director for Education and User Support, University of Zagreb University Computing Centre SRCE

Interview results

Vision of open education in the country; role of the Ministry

In the last few years there have been frequent changes of government in Croatia, and yet it can be seen that there is some understanding at ministerial level because there is a vision that education must be accessible and available for everyone. Also there is an understanding and a commitment to opening the resources produced with public funds.

Policy design and involved stakeholders

The **Strategy of Education, Science and Technology** was designed to improve the education system. The main stakeholders are the higher educational institutions⁶¹ (eight Croatian public universities), the Ministry of Education and Technology, national agencies, the Council of Rectors, and other educational institutions.

Policy dimensions and areas of action

The main dimensions are related to changes taking place in the education system in pursuit of modernisation, in particular the shift from a teacher-centred to a student-centred approach.

The main objectives are to commit to the provision of lifelong learning across the country and to deploy blended learning approaches and e-learning platforms across the HE sector.

Policy implementation and impact to date

So far the HE sector has adopted national e-learning platforms and in ICT the provision is quite extensive. Also, after the implementation of the Bologna Process, measures have been implemented towards improving the quality of education and measuring the learning outcomes. Furthermore, the adoption of OER and repositories is now becoming a trend⁶² in the country.

⁶¹ <http://www.studyincroatia.hr/studying-in-croatia/croatian-higher-education-system>

⁶² There are 21 repositories listed in the standard OpenDOAR database – <http://www.opendoar.org/find.php?cID=55&title=Croatia>

Key barriers and enablers during implementation

The main barriers in the HE sector are a lack of awareness about open education and open educational resources, and also a lack of awareness and understanding with regard to copyright⁶³ and open licenses.

As for the challenges, there is still some reluctance among academics when it comes to sharing the resources they produce – which might be a consequence of the barriers described above.

To overcome these challenges, guidance notes and training have been produced with the aim of informing academics and educators about copyright and open licenses.

Relation between policy and EU-level developments

It can be considered that the Croatian **Strategy of Education, Science and Technology** is in line with other education policies across the EU in relation to the modernisation of the education system.

Lessons learned and suggestions for future open education policies

As for **suggestions**, the interviewee said it is important to resolve the current copyright issues across Europe as it is sometimes quite difficult to share materials between countries due to the differences between their respective legislation, and she also said that there is a lack of clear common ground in relation to the use of open licenses.

Also, she **recommended** that all the teaching and learning resources and research outcomes should be published openly.

Finally, it was **recommended** that the EU should provide support for initiatives from EU countries to develop open educational platforms and resources for migrants and refugees, to help them learn the language of their host countries, become integrated into society and gain access to the education system.

⁶³ As an indication of the problem, the Creative Commons Croatia page is several years out of date – <https://wiki.creativecommons.org/wiki/Croatia>

3.5 Cyprus (CY)

Open education in the country

OER repositories or related activity are not recorded in Cyprus (by either POERUP⁶⁴ or the OER World Map⁶⁵). However, there is some OER activity, as became clear during the interview. The Open University of Cyprus⁶⁶ is involved in MOOC activities⁶⁷ and the (private) University of Nicosia offers an MOOC⁶⁸ on Digital Currency. The OpenDOAR portal records⁶⁹ four open access repositories in Cyprus – a substantial number considering the small population.

As noted by the *Education and Training 2016 Monitor Report*⁷⁰, early school leaving has declined steadily in Cyprus in recent years and the tertiary education attainment rate is one of the highest in the EU. However, Cyprus also has one of the lowest employment rates of recent graduates in the EU, reflected in relatively poor student learning outcomes measured in international surveys (such as PISA) and low levels of basic digital skills on the part of the Cypriot population. The country's participation rate in VET is also much lower than the EU average, but recent reforms and new initiatives in this area include a gradually expanding VET offer. A major challenge in general is to address increased unemployment, particularly youth and long-term unemployment.

In terms of open education, while there are several institutional initiatives – for example within higher education institutions, which are quite active in online learning – there is no specific national policy.

On the other hand, in the 2012 *Digital Strategy for Cyprus*⁷¹, "Objective 4 – Education and Learning" aims to promote digital education as a dynamic tool for upgrading, enriching and reforming of Cypriot educational process. Within this objective, "Measure 16 – eEducation" has a list of aims, most of which are either prerequisites or aspects of opening up education through ICT. This was used as the focus for the interview.

Policy/initiative overview	
Policy title	Digital Strategy for Cyprus (Measure 16 – eEducation)
Policy URL	http://www.mcw.gov.cy/mcw/dec/digital_cyprus/ict.nsf/3700071379D1C658C2257A6F00376A80/\$file/Digital%20Strategy%20for%20Cyprus-Executive%20summary.pdf
Description of the policy	The strategy aims to boost the country's digital development and includes a specific objective on Education and Learning: to promote digital education by using ICT as a dynamic tool for the upgrade, enrichment and reform of the educational process. The objectives related to education deal with ICT infrastructure, content, applications and teacher-training. One of the objectives of Measure 16 is to upgrade the infrastructure of public tertiary education (E-UNIVERSITY). Three projects have been approved with regard to the three public universities: the University of Cyprus, the Cyprus University of Technology, and the Open

⁶⁴ http://poerup.referata.com/wiki/Open_Education_Initiatives_-_by_country – information collected up to mid-2014

⁶⁵ <https://oerworldmap.org/country/cy> – however note that Eastern Mediterranean University in the Turkish-occupied zone is a member of the Open Education Consortium – <http://www.oeconsortium.org/members/view/549/> – although assigned to Turkey not Cyprus

⁶⁶ <http://www.ouc.ac.cy/web/guest/home>

⁶⁷ http://www.ouc.ac.cy/web/guest/dsdp/news/archive/15451?doAsUserId=wnqgtvlehimbtp%3F_bs_bookmarks_azfilter%3DY*&

⁶⁸ <http://digitalcurrency.unic.ac.cy/free-introductory-mooc/>

⁶⁹ <http://www.opendoar.org/find.php?cID=57&title=Cyprus>

⁷⁰ https://ec.europa.eu/education/sites/education/files/monitor2016-cy_en.pdf

⁷¹ [http://www.mcw.gov.cy/mcw/dec/digital_cyprus/ict.nsf/3700071379D1C658C2257A6F00376A80/\\$file/Digital%20Strategy%20for%20Cyprus-Executive%20summary.pdf](http://www.mcw.gov.cy/mcw/dec/digital_cyprus/ict.nsf/3700071379D1C658C2257A6F00376A80/$file/Digital%20Strategy%20for%20Cyprus-Executive%20summary.pdf).

	University of Cyprus. The projects aim to upgrade and develop the technological infrastructure that will provide the tools for integrated, automated and quality services for students and for academic and administrative personnel.
Policy institution	Ministry of Transport, Communications and Works
Policy date	2012
Policy status	Current
Language	English (for summary)
Policy jurisdiction	National
E&T sector	School education
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewee

Anastasia Economou, Head of the Educational Technology Department, Pedagogical Institute, Ministry of Education and Culture⁷²

Interview results

Vision of open education in the country; role of the Ministry

The Ministry's understanding of open education is quite broad, and includes both learners' and teachers' perspectives. The Ministry sees open education not just as open resources but as a set of practices that – combined with certain platforms – can support and promote collaboration between educational institutions, educators, learners and parents, raising awareness of the potential of open education.

During the Cypriot presidency of the Council of the European Union, the Ministry of Education and Culture (MOEC) supported this vision by co-organising with Norway, in Oslo (December 9-11, 2012), the ministerial conference "Opening Up Education through Technologies: Towards a more systemic use for smart, social and sustainable growth in Europe".

At ministerial level there is also a strong commitment to opening up not only teaching and learning but also cultural heritage, and therefore a partnership with Europeana⁷³ has been established through the Ministry's Cultural Services.

⁷² Based on her experience in her Ministry role, Ms Economou elaborated on the theme of teaching and learning policies for opening up education. Infrastructure, higher education policies and reform policies were not discussed in her interview, and the information on those subjects in this report was taken directly from the *Digital Strategy for Cyprus* (2012) and the *Cyprus National Reform Programme* (2011).

⁷³ <http://www.europeana.eu>

Policy design and involved stakeholders

The role of the Ministry is to support and raise awareness in relation to open education, promoting collaboration at national and international level (starting with the European Commission) as well as opportunities for the development of open education initiatives at school and at higher education level and involving the cultural heritage sector. Also, opening up access to research, teaching and learning materials are key objectives for the Ministry.

Policy dimensions and areas of action

The main dimensions of the policy **Digital Strategy for Cyprus** – as described in the *Digital Strategy for Cyprus* (2012) – are related to improving connectivity in the education sector (Actions 16.1-.2 -.9), increasing the number of computers in each school in order to achieve one PC per student (Action 16.3); developing digital educational content for the majority of primary and secondary schools (Action 16.7); and upgrading the infrastructure of the public tertiary education sector.

In the recent years, school pilot interventions include developing students' and teachers' digital and transversal skills, the use of online learning environments, ePortfolios, self-assessment online tools, technology-enhanced teaching and learning, collaborative approaches using digital technologies, and online OER repositories. These projects are aimed at opening up access and bringing greater opportunities into learning.

As regards higher education, the *Digital Strategy for Cyprus* (2012) describes three projects approved for the three⁷⁴ public universities – the University of Cyprus, the Cyprus University of Technology and the Open University of Cyprus – which aim to upgrade and develop the technological infrastructure and thereby provide the tools for integrated, automated and quality services for students and for academic and administrative personnel (16.13).

Policy implementation and impact to date

A few projects are taking place in schools and have been promoted to teachers through national and international collaborations. These include Photodentro CY⁷⁵, an online repository for User-Generated Content, a collaboration with the Cyprus Pedagogical Institute and the CTI Diophantus Photodentro⁷⁶ in Greece. A second example is Open Discovery Space⁷⁷, a European collaboration led in Cyprus by the Open University, aimed at sharing resources and collaborating in open educational projects.

Furthermore, the Cyprus Pedagogical Institute, in collaboration with the University of Cyprus, introduced Creative Commons licences and adapted the new CC licences in the Greek language and the Cypriot context, while following a road map for their promotion in the educational sector.

Key barriers and enablers during implementation

The interviewee stated that some of the barriers mentioned are related to the cultural change needed on the part of educational stakeholders so that they embrace openness in teaching and learning, and to the slowness with which the policy has been implemented.

⁷⁴ <http://www.highereducation.ac.cy/en/che-introduction.html> – for a more thorough but older document see <http://www.kysats.ac.cy/archeia/pdf/highereducation-vivliaraki.pdf>

⁷⁵ <http://photodentro.pi.ac.cy/ugc/>

⁷⁶ <http://photodentro.edu.gr/aggregator>

⁷⁷ <http://opendiscoveryspace.eu/consortium>

However, she said it is important to bear in mind that Cyprus has been badly affected by the economic crisis in recent years and therefore the government has had other priorities. The economic crisis can be also perceived as an enabler, because sharing resources has been a way of supporting teachers and students when other means were not available.

She emphasised that a major enabler is the coherence of open education with the *National Reform Programme of Cyprus EU2020*⁷⁸, under point 5, "Education", in which guideline 8 refers to "Developing a skilled workforce responding to labour market needs, promoting job quality and lifelong learning", and guideline 9 to "Improving the performance of education and training systems at all levels and increasing participation in tertiary education". Also she pointed out that point 6, "Digital Society", aims at "Optimising support for research, development and innovation, strengthening the knowledge triangle and unleashing the potential of the digital economy".

Relation between policy and EU-level developments

The interviewee affirmed that Cypriot policies are fully in line with EU development, agendas, strategies and commitments. She noted that the Ministry of Education and Culture is represented in all the ET2020 working groups and other EU bodies, thus being up to date with and at the same time contributing to EU-level policy discussions and developments.

⁷⁸ http://ec.europa.eu/europe2020/pdf/nrp/nrp_cyprus_en.pdf

3.6 Czech Republic (CZ)

Open education in the country

Although there is no official government policy specifically on open education, the *RVP Metodický portál* is a well-known educational portal⁷⁹ collecting Czech Open Educational Resources (OER) targeting teachers, all released with an open licence⁸⁰. It is an initiative funded by the Czech Republic and initially by the European Social Fund (at the beginning), and is run as part of a research project by the Institute of Education in Prague and the National Institute of Vocational Education. The project aims to provide “systematic support for teachers in teaching methodology and didactics, development of learning communities” and more *effective ways of learning*.

Apart from this, there are a growing number of free-of-charge or OER materials produced by NGOs, state institutions, individual teachers, etc., collected by EDUin⁸¹. Furthermore, the Alliance for Open Education⁸² runs a website⁸³ dedicated to open education in the Czech Republic, and it shows there is a far higher level of OER activity in the Czech Republic than recorded in international OER databases (such as the OER World Map⁸⁴ or the earlier POERUP database⁸⁵) – but this is a two-way process as the Alliance for Open Education is the Czech country champion for the OER World Map. There is some MOOC activity, for example the offer of free online courses by Masaryk University.⁸⁶

In terms of open access the OpenDOAR portal records⁸⁷ 16 open access repositories. As for Open Government policies, *The Action Plan of the Czech Republic Open Government Partnership for 2016 to 2018*⁸⁸, proposed by the Ministry for Human Rights, Equal Opportunities and Legislation, does not mention applications to education in general but it does refer to creating a national strategy to open access to scientific information. The creation of a strategy is now in progress.

In 2013 the Czech Ministry of Education, in cooperation with non-profit, academic and commercial sectors, carried out a nationwide public debate on future educational priorities. Its conclusions formed the basis for the country's *Strategy for Education Policy until 2020*, an important document adopted in July 2014 that will serve as a general basis for policy-making in the Czech Republic in the coming years. This is the policy selected for interview.

⁷⁹ <http://rvp.cz>

⁸⁰ <http://autori.rvp.cz/obecne-informace/licence>

⁸¹ <http://www.eduin.cz/>

⁸² <http://otevrenevzdelavani.cz>

⁸³ <http://otevrenevzdelavani.cz/otevrene-zdroje/>

⁸⁴ <https://oerworldmap.org/country/cz>

⁸⁵ http://poerup.referata.com/wiki/Open_Education_Initiatives_-_by_country

⁸⁶ <http://pozitivni-zpravy.cz/tag/moocs/> and <http://pozitivni-zpravy.cz/masarykova-univerzita-spustila-elektronicke-kurzy-pro-verejnost/>

⁸⁷ <http://www.opendoar.org/find.php?cID=58&title=Czech%20Republic>

⁸⁸ http://www.opengovpartnership.org/sites/default/files/Czech_ActionPlan2016-18_0.pdf

Policy/initiative overview	
Policy title	Strategie vzdělávací politiky české republiky do roku 2020 Strategy for Education Policy of the Czech Republic 2020
Policy URL	http://www.vzdelavani2020.cz/images_obsah/dokumenty/strategy_web_en.pdf
Description	<p>In line with the Education & Training 2020 strategic framework, the policy is based on the concept of lifelong learning, aiming to contribute to the achievement of the main goals of education: personal development, improving the quality of human life, the maintenance and development of culture as a system of shared values, the development of active citizenship, creating conditions for a socially cohesive society and democratic governance, and preparation for employment.</p> <p>The priority points are:</p> <ul style="list-style-type: none"> • Non-discriminatory approach to digital education resources • Development of pupils' digital skills and computational thinking • Development of teachers' digital skills and computational thinking • Development and modification of school infrastructure to facilitate digital education • Support for the development and distribution of innovations
Institution	Ministry of Education, Youth and Sports, in collaboration with the National Institute for Education
Policy date	2014
Status	Current
Language	English
Jurisdiction	National
E&T sectors	School education, Adult Education
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewee

Tamara Kovacova, EDUin (NGO), Open Education project

Interview results

Vision of open education in the country; role of the Ministry

Open education is mentioned in some of the strategic documents (*National Strategy for Digital Education 2020; National Strategy for Digital Literacy 2020*), but the implementation of these documents has been very slow. The Ministry's implementation capability (including in terms of personnel) is limited. Without systemic Ministry support it is possible that neither strategy will be implemented effectively. Currently the Ministry has very limited capacities and tools for any awareness-raising campaign.

Policy design and involved stakeholders

The Strategy for Education Policy of the Czech Republic 2020 was designed to comply with the EU recommendations for enhancing education in EU Member States. The policy derives from the 2015 strategy for digital literacy, targeting education for 16+ in the Czech Republic 2015-2020 (*Strategie digitální gramotnosti ČR na období 2015 až 2020*)⁹⁰ published by the Ministry of Social Welfare: this mentions open materials as key resources for training on digital literacies. In line with this, the policy mentions, under point 3.2, the importance of creating "an open area for lifelong learning, including recognition of the results of non-formal and informal learning". An important stakeholder involved in the policy is EDUin⁹¹, an NGO that provides support to policymakers in implementing the open education aspects of the policies and promotes, develops and creates Open Educational Resources and programmes.

Another strategy targeting schools is the *Strategy for digital education 2020*⁹², in which opening up materials for education is addressed in point 1.

Policy dimensions and areas of action

The policy's main dimensions of action in relation to open education are related to lifelong learning and involve the development of tools for teachers to share resources, such as the Metodický portal⁹³, and supporting the sustainability of projects in different areas of action – schools, universities, further education and lifelong learning – in order to develop the competences of workers.

Policy implementation and impact to date

As the Strategy for Education Policy of the Czech Republic 2020 is still quite recent and in the early stages of being implemented, its impact is difficult to measure. However, it is remarkable that in supporting the use of open content, an official decision has been made to transversally adopt Creative Commons licenses for publications and digital resources in the Czech Republic⁹⁴.

⁸⁹ http://www.vzdelavani2020.cz/images_obsah/dokumenty/strategie/digistrategie.pdf

⁹⁰ http://www.mpsv.cz/files/clanky/21499/Strategie_DG.pdf

⁹¹ <http://www.eduin.cz>

⁹² <http://www.msmt.cz/file/34429/>

⁹³ <http://rvp.cz>

⁹⁴ There are very low ambitions – for example http://clanky.rvp.cz/wp-content/upload/prilohy/21071/kriteria_kvality_digitalnich_vzdelavacich_zdroju.pdf

Key barriers and enablers during implementation

The main barrier the interviewee observed is the fact that there is no team dedicated to promoting, supporting and advocating for open and digital education at the ministerial level. Such a team would enable policy to be implemented in a more effective way.

Relation between policy and EU-level developments

The interviewee affirmed that Czech policies are in line with EU recommendations as far as promoting the development of innovative and digital skills, including open education, is concerned.

Lessons learned and suggestions for future open education policies

The interviewee felt that the lessons learned are not yet clear, as the Strategy for Education Policy of the Czech Republic 2020 is still at an early stage of development. But those lessons would be related to the involvement of different stakeholders so as to ensure that implementation is effective and covers all the aspects of the initiative. The stakeholders' involvement is important in order to maintain a high level of ambition in terms of opening up education, promoting the need for OER, and promoting open access to scientific information⁹⁵.

In terms of **suggestions** for future open education policies, the interviewee mentioned that it would be **helpful** to have resources developed by EU stakeholders that define and clarify open education and its associated concepts. In fact, even though the core principles are in place, the concept has not yet been widely promoted, and therefore even when in principle aspects of openness are present in policies and projects, these are not clearly stated and not easily identifiable in official documents.

Finally, she stated that in order to ensure that openness-related good practices are known and shared, the EU should **monitor** to ensure that all the documentation, agendas and policies – and their outcomes such as guides, materials and resources produced with EU funding – are published under open licenses. The biggest help, specifically, would be if Europe were to state that everything that is produced with EU funds has to have a CC BY licence.

⁹⁵ Kritéria kvality digitálních vzdělávacích zdrojů podpořených z veřejných rozpočtů (Criteria for quality of digital educational resources supported from public budgets) Version 1.0, July 2016 – http://clanky.rvp.cz/wp-content/upload/prilohy/21071/kriteria_kvality_digitalnich_vzdelavacich_zdroju.pdf

3.7 Denmark (DK)

Open education in the country

No relevant policies in Denmark emerged from desk research, either for schools or higher education, for OER, MOOCs, open learning, distance education, or general ICT-supported education. However, experts indicated (though without specific examples) that Danish institutions are generally incorporating digitisation and ICT-supported education into their strategies – even if one paper argues that such activities are somewhat unfocused⁹⁶. Certainly no public examples of recent e-learning strategies (in English) were found, even though several leading universities⁹⁷ had overall strategies published in English.

Furthermore, open education has a long tradition in Denmark (as in Finland – see later), in the traditional sense of “open and distance learning”. Even though there is now no Open University in Denmark (the Jutland Open University was closed in 1995), the Danish Association of Open Universities was formed as a “prolongation” of that approach. Currently there are claimed to be 29 study programmes at university level in distance or blended learning, though with only just over 1,000 students in total – far fewer than in Scotland or Ireland, for example. Unusually for an EU Member State nowadays, Denmark has no private universities at all⁹⁸.

There are some other factors possibly not conducive to openness, in either the traditional or modern (OER-oriented) sense, in Danish higher education. There is an apparent oversupply of higher education: the government recently cut around 3,600 places⁹⁹ in higher education institutions, claiming that too many graduates were entering non-graduate employment roles. Opinions in Denmark vary¹⁰⁰ on the wisdom of this approach to “dimensioning”: a fuller description of this “cap on student intake” is provided below, thanks to one of our experts. There were also further significant HE budget cuts in 2016.¹⁰¹

MOOC activity is also at quite a low level by European standards. In contrast, open access activity is substantial, with the OpenDOAR portal reporting¹⁰² 12 open access repositories.

The Danish Technological Institute¹⁰³ used to be active in e-learning, with government support, but it now has a private research and development role and is not active in education. The government used to provide funding for EMU¹⁰⁴, which was the main public portal for educational content in Denmark. It was sustained by UNI·C and used to provide several portals with OER content.

⁹⁶ “In Denmark, at least, university IT-strategies tend to be quite vague about the goals to be reached; and criteria for determining success often are not clearly defined. It is generally recognised that there is a long way to go before the ideals of the national strategy for ICT in education have been implemented.” (http://forskning.ruc.dk/site/files/57184128/Adopting_Elearning_in_Higher_Education_sh_ah.pdf, 2010).

⁹⁷ Including Aarhus, Aalborg and Copenhagen – though with little or nothing on open, online, OER etc.

⁹⁸ Though there is the occasional flurry of interest

(<http://www.universityworldnews.com/article.php?story=20100123090613452>) and Danish universities now charge fees to non-EU students, with some exceptions (<http://studyindenmark.dk/study-options/tuition-fees-scholarships>)

⁹⁹ <https://lifeinaalborg.wordpress.com/2014/11/04/danish-institutes-of-higher-education-to-see-significant-cuts-in-student-places-from-next-academic-year/>

¹⁰⁰ See for example <http://monitor.icef.com/2014/10/danish-reforms-will-impact-domestic-international-students/> and https://www.nafsa.org/_/File/_/ie_marapr15_looking_further.pdf

¹⁰¹ <http://www.universityworldnews.com/article.php?story=20160418210735400>

¹⁰² <http://www.opendoar.org/find.php?cID=59&title=Denmark>

¹⁰³ <http://www.dti.dk>

¹⁰⁴ <http://www.emu.dk/modul/about-emu>

In the Ministry it is not clear how much interest there is in such matters. Denmark has not updated its *2013-14 Action Plan for OGP* and in any case this does not mention applications to education¹⁰⁵ – there is a section on Open Data but the data in question are not oriented for use in, or support of, learning processes.

One expert claimed the current government view is that second-chance education should focus on basic skills, not HE – but of course second-chance education can use open education methods.¹⁰⁶

Cap on Student Intake model¹⁰⁷

As in most of Europe, there is no question that the main challenge facing higher education in Denmark today is to ensure students are equipped with the skills and competences needed in the labour market. In Denmark there is increasingly a mismatch, with some areas of the labour market having a shortage of skilled applicants while in other fields graduates still find it hard to find appropriate employment. There is therefore an overall need to create a stronger match between the skills graduates obtain as part of their education and the qualifications required by the labour market. To meet this overarching challenge there are different related challenges that also need to be addressed. Therefore a model to adjust student intake has been introduced to higher education programmes, aiming to encourage intake away from programmes with systematic and significant unemployment and towards programmes with better job opportunities. The model encompasses approximately 3,600 places at Bachelor and 2,300 at Master's level. The unemployment trend of each study programme is monitored closely and the underlying model is calculated annually so that "new" programmes associated with systematic and significant unemployment can be identified.

The 2015 Consolidation Act on Open Education¹⁰⁸ must also be mentioned, as it aims to "promote the availability of a wide range of vocational training programmes for the adult population" and states that: "In designing training programmes, adults' practical opportunities for combining education and an affiliation with the labour market must be taken into consideration, either by 1) Organisation on a part-time basis for employed persons, including employed persons who receive State Educational Support for Adults (SVU) or compensation for participation in vocational post-secondary adult and continuing education, or by 2) Organisation on a full-time basis for employed persons, including employed persons who receive State Educational Support for Adults (SVU) or compensation for participation in vocational post-secondary adult and continuing education. The educational activities must lie within the scope of the Danish Ministry of Education or the Danish Ministry of Higher Education and Science."

Within the Consolidation Act on Open Education, open education is defined as "vocational 1) part-time training programmes, 2) full-time training programmes offered on a part-time basis, 3) single subject courses, 4) courses in specific fields, 5) short courses and 6) tailored courses."

¹⁰⁵ <http://www.opengovpartnership.org/files/denmarkopen-government-action-plan-2013-2014eng1-sidedprintpdf>

¹⁰⁶ See Adult Education and Open Educational Resources, European Parliament, 2015 –

[http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2015\)563397](http://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2015)563397)

¹⁰⁷ For some public background see https://ec.europa.eu/education/compendium/plan-cap-student-intake_en and more generally

http://www3.weforum.org/docs/GAC/2014/WEF_GAC_Employment_MatchingSkillsLabourMarket_Report_2014.pdf

¹⁰⁸ Text extracted from

http://www.au.dk/fileadmin/www.au.dk/Regelsamlingen/2015/Bekendtgørelse_af_lov_om_aaben_uddannelse-da-en_gb-C__1_.pdf

Interviewee

Line Bækgaard-Fuldmægtig, Head, Danish Agency for Higher Education

Interview results

Vision of open education in the country; role of the Ministry

From the Ministry's point of view, open education is embedded in a broader plan related to education digitisation. The aim of the government is to modernise higher education by providing access to digital resources both at research and at teaching and learning level.

The interviewee stressed that even if Denmark does not have a policy of open education or ICT in education, there is an explicit commitment on the part of the government, the Ministry and its agencies, and in the HE sector, to modernise the university system and indeed the whole education system. The role of the Ministry in relation to open education, as part of its digitisation agenda, includes promoting the development of MOOCs to train educators across all educational sectors, from pre-school to post-secondary level. The initiative is left to higher education institutions (universities and others) that are developing institutional open education projects and initiatives, such as the OER portal¹⁰⁹ developed by the VIA University College.

Another interesting open education initiative mentioned by the interviewee is the Consolidation Act on Open Education¹¹⁰, focusing on adult vocational education, the aims of which can be understood as promoting a wide range of vocational training programmes for the adult population and designing training programmes and practical opportunities for adults to combine education with employment. There is clear focus on digital skills when it comes to continuing and further education.

At university level, the Ministry of Higher Education and Science promotes and supports open access and open science via the open access policy¹¹¹ for public-sector research.

Open education state-of-the-art

The interviewee noted that Denmark's commitment to open education is part of the country's digitisation and modernisation agenda aimed at democratising access to education. This includes the provision of opportunities for adults and for those living in remote areas to access higher education, since online and blended learning courses can facilitate access for those who traditionally do not consider enrolling in higher education programmes.

She went on to say that, perhaps partly because the Danish university system is relatively accessible since EU and Danish students are exempted from paying fees, there has been a significant uptake of digital resources for teaching, learning and research, and training is being constantly provided for educators. Also, Danish universities are producing MOOCs to widen their educational offering – for example the Technical University of Denmark¹¹² and

¹⁰⁹ <http://openvia.dk>

¹¹⁰ http://www.au.dk/fileadmin/www.au.dk/Regelsamlingen/2015/Bekendtgørelse_af_lov_om_aaben_uddannelse-da-en_gb-C__1_.pdf – see the subsection at the end of this interview transcript

¹¹¹ <http://ufm.dk/en/research-and-innovation/councils-and-commissions/the-danish-council-for-independent-research/open-access-policy?searchterm=open%0Aaccess>

¹¹² <https://www.mooc-list.com/university-entity/technical-university-denmark-dtu>

University of Copenhagen¹¹³ offer a significant number of MOOCs both in English and Danish.

Key barriers and enablers during implementation

The interviewee noted that as Denmark does not have a specific policy on open education, the challenges observed are in relation to the digitisation agenda and mainly concern the reluctance of certain groups of educators to embrace change and adopt a digital culture for teaching and learning.

Relation between policy and EU-level developments

As far as digitisation in general terms is concerned, she affirmed that Denmark is in line with the Digital Agendas of the European Union. At the higher education level, and in terms of providing open access to research papers and research data, Denmark complies with the Open Science principles for research and innovation in accordance with the guidelines of the European Commission.

¹¹³ <https://www.class-central.com/university/ucph>

3.8 Estonia (EE)

Open education in the country

In Estonia there appears to be no national policy specifically for open education or OER. The *Open Government National Action Plan*¹¹⁴ for 2016-18 includes, in Commitment 4, the “Development of social and ICT know-how, taking into account the opportunities of the information society and e-state”; and in Action 4.1, “Defining participatory democracy and development of digital competence in school education”. The details, however, reveal that the orientation is mainly towards aspects of participatory democracy (pp.25-26).

On the other hand, the country’s Lifelong Learning Strategy, presented below, contains important elements aimed at opening up education. It is a document that guides the most important developments in the area of education and was selected as the policy document for the basis of the interview.

Policy/initiative overview	
Policy title	Eesti elukestva õppe strateegia 2020 Estonian Lifelong Learning Strategy 2020
Policy URL	https://www.hm.ee/sites/default/files/estonian_lifelong_strategy.pdf
Description	The general goal of the Lifelong Learning Strategy is to provide all Estonian citizens with learning opportunities tailored to their needs and capabilities throughout their lives, in order for them to have maximum opportunities for dignified self-actualisation both at work and in their family lives. The strategic goals of the strategy (each one structured along Strategic Measures) are: a) A change in the approach to learning, b) Competent and motivated teachers and school leadership, c) The coordination of lifelong learning opportunities with the needs of the labour market, d) A digital focus on lifelong learning, and e) Equal opportunities and increased participation in lifelong learning. Strategic Measure 4.2 states that: “the availability of digital learning resources will be ensured, including e-textbooks, interactive exercises, open educational resources, teachers’ guides, and web-based assessment tools”.
Institution	Ministry of Education and Research
Policy date	2014
Status	Current
Language	English
Jurisdiction	National
E&T sectors	School education, Higher education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research Transversal dimensions <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Leadership

¹¹⁴ http://www.opengovpartnership.org/sites/default/files/Estonia_NAP3_2016.pdf

Interviewees

- Ene Koitla, Head, Innovation Centre, Estonian Information Technology Foundation for Education.
- Inga Kõue, Head of Content Development, Estonian Information Technology Foundation for Education.

Interview results

Vision of open education in the country; role of the Ministry

The main vision of open education in Estonia has a focus on lifelong learning towards enhancing the skills and competences of school teachers by producing training courses for them, as the Ministry has a plan (“digital focus”¹¹⁵) to support them in embracing digital technologies. The policy also supports the provision of platforms for teachers to share content – such as e-koolikott¹¹⁶, Koolielu¹¹⁷ and innovatsioonikeskus¹¹⁸ – and has designed guidelines and recommendations for the creation of OER.

Policy design and involved stakeholders

Apart from the Ministry of Education, schools and universities were also involved, together with two foundations that support the development of open education in the country: the Estonian Information Technology Foundation for Education¹¹⁹ and Innova Estonia¹²⁰. These are involved in providing training aimed at changing the teaching and learning culture in the country, including the development of a curriculum of digital competences for students and teachers.

Policy dimensions and areas of action

The main areas of action in the **Estonian Lifelong Learning Strategy 2020** are focused on the development of a digital culture at the national level, promoting resources, guidelines, training and curricula that can be of use in future for students and teachers by helping them embrace new technologies and acquire new digital competences.

Policy implementation and impact to date

Within the constraints of the budget available for a five-year period (€67,000), teachers are being trained in digital competences across the country and online platforms are being built to support the sharing and creation of resources, while guidance and support is being provided to teachers and students to help them use these platforms effectively. Also, universities are being encouraged to adopt an open approach to the sharing of resources and to include digital literacies in their curricula.

Key barriers and enablers during implementation

One major barrier is the lack of ICT devices for schools, students and teachers, and poor access – especially in rural areas – to Wi-Fi and connectivity. Another significant obstacle is the still dominant traditional approach to teaching and learning. It was noted that the

¹¹⁵ <https://www.hm.ee/en/activities/digital-focus>

¹¹⁶ <https://e-koolikott.ee>

¹¹⁷ <https://koolielu.ee> – mentioned in the introduction

¹¹⁸ <http://www.innovatsioonikeskus.ee/en/digital-teaching-resources>

¹¹⁹ <https://www.hitsa.ee/en>

¹²⁰ <http://eng.innovaestonia.ee>

preferred teaching materials are printed textbooks and that teachers lack the ability to use and adopt new digital technologies. The reluctance of parents to support the use of electronic devices for teaching and learning is also a concern, and therefore training and support for parents in understanding how their children use technologies has been included in the policy actions.

As for the enablers, the role of the government has been key in supporting and promoting digital technologies, developing platforms to share open educational resources¹²¹, and providing training and guidance across the educational sector for the benefit of students and teachers.

Relation between policy and EU-level developments

The **Estonian Lifelong Learning Strategy 2020** is consistent with EU policies and shares the general aim of developing an open and digital culture among educators.

Lessons learned and suggestions for future open education policies

The interviewees noted that when developing digital skills in schools and when adopting the use of digital devices with children, it is important to consider the concerns of the parents and to provide them with guidance and support to ensure the resources are used effectively.

The interviewees also observed that it is important to bear in mind that these digital skills need to prepare students for higher education, as they can be an effective way to democratise and widen access to universities.

Finally, they both **recommended** that the EU could provide Member States not only with a framework of competences and skills but also with guidance and resources to develop those skills, by providing accredited MOOCs for teachers' training and more funds for the development of open education.

¹²¹ See <https://koolielu.ee/koolitus>

3.9 Finland (FI)

Open education in the country

Although Finland has a long tradition of openness, there is no single national policy that specifically mentions OER or open education. Nor are there many signs of OER activity – only a few are noted on the OER World Map¹²². The experts who were consulted say the current government is regarded as less supportive of such developments than its predecessors. In order to elucidate this apparent shift, this section is considerably longer than those for most other countries.

Open education in the ODL sense

In Finland, “open education” was a phrase originally used in the ODL (Open and Distance Learning) and Lifelong Learning movements of the 1980s and 1990s. Indeed the Finnish Universities Act¹²³ 558/2009, which is still in place, states (Chapter 1 Section 2 Paragraph 1) that universities “must promote lifelong learning” and “interact with the surrounding society and promote the impact of research findings and artistic activities on society”. All this gives Finnish universities great scope to also engage in the contemporary version of open education. However, Chapter 2 Section 7 Paragraph 1 states that “the universities *may* also provide continuing professional education and open university education” (our emphasis) – or in other words, a serious commitment on their part is optional.

The Council for Lifelong Learning is an expert body¹²⁴ within the Ministry of Education and Culture, which deals with issues including the conditions for lifelong learning and the development of adult education. The council comprises 14 members and their deputy members, who collectively possess diverse expertise in the areas of education, the labour market and research. The council currently acknowledges that there is no specific Lifelong Learning Strategy in Finland, but is seeking to develop a new kind of strategy whose aims would include prolonging and improving Finnish citizens’ working lives. From the council’s perspective, education, labour and innovation policies should be mutually supportive.

The Ministry of Education and Culture has established a process to review the Finnish higher education system¹²⁵ in order to analyse its strengths and weaknesses, produce proposals for improvements, and strengthen Finland’s innovation system. Over time this might produce concrete new policies. In 2015 the Ministry published, in English, a consultative document (“Green Paper”)¹²⁶ entitled *Towards a future proof system for higher education and research in Finland*.

The paper implies that despite the “must” in the legislation (and perhaps partly as a consequence of the “may”), Finland is now starting from a low base when it comes to lifelong learning. Indeed the phrase “lifelong learning” is used only 11 times in the above report, mostly in connection with other countries, and there is the forceful conclusion (p.44) that (our italics):

Almost none of the universities indicated that equal participation, *support of lifelong learning*, the support of strong students and a focus on Master and PhD programmes are important in their educational strategy development.

¹²² <https://oerworldmap.org/country/fi>

¹²³ Unofficial English translation – <http://www.finlex.fi/en/laki/kaannokset/2009/en20090558.pdf>

¹²⁴ <http://www.infonet-ae.eu/country-overviews/finland>

¹²⁵ <http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2015/liitteet/okm11.pdf>

¹²⁶ <https://julkaisut.valtioneuvosto.fi/handle/10024/75119>

Furthermore (p.92),

The International Panel noted that no-one raised any issue about lifelong learning and continuing adult education; indeed, remarkably, the topic did not emerge during the discussion except in response to prompting.

Therefore, not surprisingly, Finland's two OGP plans¹²⁷ do not mention open education – indeed they hardly mention education at all.

Open University and Virtual University

On the other hand there appears to be much more in terms of long-term policy continuity in higher education in Finland than in many other Member States. The Finnish Open University is a decentralised system whereby most Finnish universities offer flexible learning courses to adults, many now via online methods. Its origins were in the early 1970s and it has existed in its current form for at least 20 years. Open University courses are open to all, regardless of age and educational background. The quality and standard of teaching is equivalent to teaching in the faculties/departments of each host university. At the national level the system serves around 80,000 students per year, with thousands of study modules and study units in hundreds of subjects. After taking a certain number (60 ECTS, sometimes fewer) of courses an Open University student is entitled, outside the normal entrance examination system, to apply for entry to university as a regular degree student. The Open University does not itself award degrees, but its courses are part of university degree programmes and may therefore be incorporated into a degree if the student applies and is admitted to a university at a later stage. Open University courses are provided in cooperation with departments and faculties of universities, and in some cases fully integrated so that degree students and open students study the same courses. In addition, many of the courses are organised in cooperation with adult education organisations: summer universities, folk high schools and adult education centres.

Separately from the Finnish Open University, the Finnish Virtual University¹²⁸ was set up recently via a series of government-funded initiatives. In comparison with the Open University this had considerably more focus on online learning. There is also a Finnish Online University of Applied Sciences¹²⁹.

Open education initiatives in the contemporary sense

There have been publicly-funded OER programmes in Finland for a number of years.

- Avoimet oppimateriaalit ry¹³⁰ (the Finnish Association for Open Educational Resources) was founded in September 2012, with the main purpose of increasing the recognition and adoption of open educational resources. So far its biggest initiative has been the *Vapaa matikka* series of grade 10-12 mathematics textbooks. The association is a strong advocate of Creative Commons licensing. Its primary working method has been "hackathon" organising – as of July 2014 there had been 14 Vapaa matikka hackathons. Some previously written books have also been licensed under a CC license in partnership with the association.
- The Code ABC project¹³¹ is largely volunteer-run but is now partly supported by the Finnish National Board of Education (now the Finnish National Agency for

¹²⁷ <http://www.opengovpartnership.org/country/finland/action-plan>

¹²⁸ http://www.virtualschoolsandcolleges.eu/index.php/Finnish_Virtual_University

¹²⁹ http://www.virtualschoolsandcolleges.eu/index.php/Finnish_Online_University_of_Applied_Sciences

¹³⁰ <http://avoimetoppimateriaalit.fi/in-english/>

¹³¹ <http://koodiaapinen.fi/en/>

Education)¹³² and has also received some EU funding. It is a grassroots initiative by teachers and educational researchers, aimed at providing free-of-charge and tailored MOOC on coding for Finnish primary school teachers. The new national curriculum framework for primary education in Finland (from 2016 onwards) states that programming (or coding) should be incorporated into all levels of education. The initiative also provides an open library of content (openly licensed under CC BY).

- Some higher education institutions were interested in membership of the Open Education Consortium but now only one¹³³ is a member. It is felt that now the focus is more on MOOCs¹³⁴, such as at the University of Jyväskylä¹³⁵ and Turku AMK¹³⁶.
- Metropolia University of Applied Sciences, the Finnish Innovation Fund Sitra and others are offering a multidisciplinary course (MOOC) on climate change¹³⁷ ("Climate Now") that was launched in 2016. The course aims to offer every HEI student in Finland the opportunity to learn the basics about climate change and increase their understanding of how it might affect the student's own field of study.
- The Finnish Broadcasting Corporation (YLE) offers free-of-charge educational and informative content through YLE Learning Online¹³⁸. YLE Teachers' TV is also active as a section in YLE Learning Online¹³⁹, even if an earlier site¹⁴⁰ is not now available.
- Internetix is a portal of Otava Folk High School¹⁴¹ for conducting courses at upper secondary level¹⁴².
- As expected, Finnish universities are active in open access repositories, with 16 reported by OpenDOAR.¹⁴³

However, some initiatives seem no longer to be active:

- EDU21 was documented in earlier reports as a portal set up and maintained by the Finnish National Board of Education, but no trace of it can now be found¹⁴⁴
- Le Mill was also a well-known OER site, which seems now not to have government funding: its former site¹⁴⁵ is not operational.

International databases also mention the OpenScout¹⁴⁶ project, which was an EU-funded project that finished in 2012, but its website is still active.

Swedish-language education

It should be remembered that Finland has two official languages, Finnish and Swedish. The Universities Act¹⁴⁷ 558/2009 makes it clear in Chapter 2 Section 12 Paragraph 1 that:

¹³² http://www.oph.fi/english/education/overview_of_the_education_system

¹³³ Helsinki Metropolia University of Applied Sciences – <http://www.metropolia.fi/en/> – this is documented in OER World Map and POERUP

¹³⁴ Informal communication, but confirmed by https://eadtu.eu/images/publicaties/Finland-Comparing_Institutional_MOOC_strategies.pdf p.5

¹³⁵ https://www.avoin.jyu.fi/en/study/studies/MOOC_success_factors

¹³⁶ <https://www.mooc-list.com/countries/finland> – see <http://www.tuas.fi/en/>

¹³⁷ <http://www.climatenow.fi/story.html>

¹³⁸ <http://yle.fi/aihe/oppiminen>

¹³⁹ <http://yle.fi/aihe/oppiminen/opettajalle>

¹⁴⁰ <http://opettaja.tv>

¹⁴¹ http://www.otavanopisto.fi/in_english

¹⁴² <http://opinnot.internetix.fi/fi/structure/etusivu>

¹⁴³ <http://www.opendoar.org/find.php?cID=73&title=Finland>

¹⁴⁴ Perhaps it was confused with the edu21.dk portal in Denmark

¹⁴⁵ <http://www.lemill.net>

¹⁴⁶ <http://learn.openscout.net>

Åbo Akademi University, Hanken School of Economics, the University of Helsinki, the University of Art and Design, Sibelius Academy, the Theatre Academy and Aalto University¹⁴⁸ shall be responsible for educating a sufficient number of persons proficient in Swedish for the needs of the country.

In more detail, Section 11 Paragraph 1 states that:

The languages of instruction and examination in the University of Helsinki, the Academy of Fine Arts, Sibelius Academy and the Theatre Academy shall be Finnish and *Swedish*. The language of instruction and examination in Aalto University shall be governed by the provisions on the language of instruction and examination of its constituent Schools in Section 9 of the Universities Act of 1997 (645/1997). The language of instruction and examination of Åbo Akademi University, Hanken School of Economics, and the Swedish School of Social Science of the University of Helsinki shall be *Swedish*. The language of instruction in other universities shall be Finnish.

As one example, the Open University at Åbo Akademi University¹⁴⁹ educates about 3,000 students per year and awards about 23,000 credits (ECTS) per year, spread across 300 courses of which about one-third are online.

In terms of OER, Vetamix¹⁵⁰ is an online learning resource provided by the Swedish department of YLE (the national broadcasting company) in collaboration with the Finnish National Agency for Education and the Swedish Cultural Foundation in Finland¹⁵¹.

Interviewee

Ilmari Hyvönen, Senior advisor, Ministry of Education and Culture, Department of Higher Education and Science Policy

Interview results

Vision of open education in the country; role of the Ministry

In Finland there is no policy with an official name that includes “open education”, despite the long tradition of open learning in the country since the 1970s and online learning since the late 1990s. The main reason for this is that openness in the broad sense is already to some extent embedded in ordinary higher education policy and the connected objectives of equity and flexibility have partially been achieved, although some challenges remain. Another reason is that in recent times the government has had other priorities and also budget cuts to contend with.

On the other hand Finland has in place a policy on Open Science¹⁵², continuing until 2018 and likely to be extended, which promotes openness with regard to research publications, data and methods.

If we consider openness in its broad sense, including recognition and access to learning for everybody, we can say that all Finnish universities are adopting open approaches. A number of universities are also providing MOOCs for free, charging a fee only for certification at the end of the course.

¹⁴⁷ Unofficial English translation – <http://www.finlex.fi/en/laki/kaannokset/2009/en20090558.pdf>

¹⁴⁸ Åbo Akademi University (<http://www.abo.fi/public/en>); Hanken School of Economics (<https://www.hanken.fi/en>), University of Helsinki (<https://www.helsinki.fi/en>); University of Art and Design is now part of Aalto University (<http://www.aalto.fi/en/>); Sibelius Academy (Music) and the Theatre Academy are now part of the University of the Arts Helsinki (<https://www.uniarts.fi/en>)

¹⁴⁹ <http://www.abo.fi/student/en/openuniversity>

¹⁵⁰ <https://svenska.yle.fi/vetamix>

¹⁵¹ <http://www.kulturfonden.fi/in-english/>

¹⁵² <http://openscience.fi>

In the present phase the Ministry of Education and Culture is working to expand an important dimension of openness, namely institutional collaboration, so that the courses of one university can be used by other institutions. The Ministry intends to achieve this by rewarding with funding those universities that cooperate: in 2016 a general call for funding (€25 million) was launched, in which university consortia will be funded. Furthermore, since 2016 a part of public funding to universities has been based not only on ECTS taken in the university where students are enrolled but also on ECTS taken by students from other universities, based on collaboration agreements.

Another priority is to improve the interoperability of universities' information and management systems so that students can take courses from any Finnish university within a single system. The Ministry is working on this and has developed a shared identity management solution and an ECTS single platform for every student.

Stakeholders involved in open education

In terms of open licensing and OER there are a number of civil society organisations that promote openness. At the moment the movement is stronger in the Open Science field but it will also probably be extended to education. There have been discussions and seminars on MOOCs and OER but these have not yet produced any policy. It would be true to say that an underlying discussion has been going on in Finland for some time, involving universities, trade unions and civil society stakeholders.

Key barriers and enablers during implementation

For the Finnish style of openness, which is now based on cooperation among institutions, the main challenge is that independent institutions that wish to work together are obliged to modify and harmonise their timelines and priorities. To change this situation will require time and a great deal of commitment on the part of the individual institutions.

Second, in order to foster cooperation, management processes related to students of other universities should be further simplified in terms of the availability of information, interoperability, and the recognition of credits. Institutions perceive a value in this "open economy" approach – for example in the last few years universities of applied sciences have opened all their summer courses to students from other universities.

Third, the open licensing of teaching materials presents a challenge because the norm is that content belongs to the teachers. To change that, it would be necessary either to change teachers' contracts (a sensitive issue) or to promote voluntary open licensing on their part.

Fourth, teachers' capacity for working with open approaches should be enhanced, while in Open Science there are also important capacity developments to undertake.

Relation between policy and EU-level developments

The interviewee affirmed that the Finnish Ministry of Education actively participates in European activities such as the work of the ET2020 Expert Working Groups, *even if the openness part of the work has not yet got underway in a meaningful sense.*

One suggestion for European institutions is that they could promote European open standards for education data, allowing institutions from different countries to understand what is being done in other countries in terms of curricula, etc.

Lessons learned and suggestions for future open education policies

The interviewee stated that the basic steps for opening up education in Finland were taken a long time ago, and nowadays open education is part of the system, as universities normally take open approaches into account.

Therefore, in a case such as that of Finland, the interviewee felt the focus should be on collaboration among institutions: universities need to see the value of this cooperation and the Ministry needs to reward it, while also working on practical issues such as interoperability and information-sharing.

He concluded that one of the biggest problems with the Finnish Virtual University, in fact, was that openness was merely added on top of the normal institutional processes, and that created problems.

3.10 France (FR)

Open education in the country

France has been steadily evolving its efforts to open up education. Making education more open has been a goal for the past 15 years, although the term “open education”, at least inside the Ministry of Higher Education, has only been used more recently. Open education in France means, above all, providing access to education to everyone for free, regardless of their social or financial status.

A number of new actions on open education have been developed by the Ministry since 2013 with the launch of the *Digital Agenda*, a five-year plan to increase the availability of digital resources and support OER. One of those actions is France Université Numérique (FUN); and also FUN MOOC, which supports the creation of MOOCs in French. The latter is often presented as a part of the FUN initiative but it is actually a separate action supporting the same objectives¹⁵³, which include widening access to higher education, the facilitation of upskilling, and economic competitiveness.

The Ministry of Higher Education plays an important role in supporting open education initiatives, acting as a strategist, incubator and catalyst. This means the Ministry is often involved in “starting up” France’s open education initiatives, which are afterwards “handed over” to companies created by the Ministry itself. Although those companies become responsible for administering and developing the initiatives, the Ministry continues to provide financial support and oversight, giving advice and determining the direction of the initiatives in collaboration with various other stakeholders.

This centralised system is part of the governmental culture of France, where the central authority has an important role in creating the conditions for innovation to take place in various areas such as health, transport and education. Part of the role of the ministries is to identify the strategy and lead the innovation processes.

Two open education initiatives will be reported here, both of which are part of the country’s open education strategy in support of the Digital Agenda: FUN MOOC¹⁵⁴ and PIX¹⁵⁵.

France – FUN MOOC initiative

Policy/initiative overview	
Policy title	FUN MOOC
Policy URL	https://www.fun-mooc.fr/
Description	FUN MOOC is a public organisation that receives funding from the Ministry of Higher Education and Research. It works in partnership with the Ministry, under its supervision. The Ministry supports FUN MOOC as part of the Digital Agenda for Higher Education and Research. FUN MOOC was a start-up run by the Ministry in its early days, but the Ministry then decided it should not be in charge and a public organisation should take over. FUN MOOC is a strongly public-oriented project giving freedom to universities to develop activities such as MOOCs, lifelong learning, and certification.

¹⁵³ A full case study discussing the origins of FUN and Universités Numériques Thématiques (UNT) can be found in the *OpenCases* report by the JRC, 2016. Available at <http://bit.ly/2eoR9II>

¹⁵⁴ <https://www.fun-mooc.fr/>

¹⁵⁵ <https://pix.beta.gouv.fr/>

Institution	FUN MOOC (under the supervision of the Ministry of Higher Education and Research)
Policy date	2013
Status	Current
Language	French and English
Jurisdiction	National mostly
E&T sectors	Higher education (including vocational HE), Adult learning
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input checked="" type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewee

Catherine Mongenet, CEO of FUN MOOC (GIP - *Groupement d'Intérêt Public*)

Interview results

Vision of open education in the country; role of the Ministry

Open education is supported by the Ministry in response to a request from French universities back in 2013. They wanted to create MOOCs in a shared platform where they would be able to manage the editorial policy themselves, with no rules to follow from a third-party organisation. The Ministry supported this idea by making it part of France's Digital Agenda. Open education via FUN MOOC is seen as a way to upskill individuals, mediate knowledge transfer and connect different actors, such as universities with companies and workers with universities. It is based on an ethos of free education, with no cost to the learner except when they wish to pursue a verified certificate route. The platform is used by a wide variety of learners, with young people, adults and retirees all involved.

Policy design and involved stakeholders

FUN MOOC is an important initiative in terms of raising the profile of French universities in the francophone world. It was a project developed alongside 20 others as part of the French Digital Strategy. This strategy has evolved over the past three years, having four committees in charge in total: infrastructure, information system, documentation and resources, training, teaching and learning. In the HE ministry there is a long tradition of OER, starting with the so-called Université Numérique Thématique (UNT) created in early 2000's.

Around 16% of FUN MOOC learners come from Africa. FUN MOOC has three main missions, all equally important: 1) to provide a platform and technology for the development of MOOCs, 2) to be an intermediary between universities and the business world, and 3) to create and animate a community around MOOCs to support the transformation of education in universities through digital technologies. There are over 1,300 people in the FUN MOOC Network, where documents and good practices are shared and training is offered.

FUN MOOC's design is based on a membership model where universities become *members* and pay an annual fee, and the Ministry contributes 50% of the budget. Foreign universities can also join, but as partners rather than full members. They can access the platform but must pay for the services there. The FUN MOOC budget was 2.5 million euros in 2016, of which 48% came from the Ministry of HE and Research and 52% from its members and partners and their related activities on the platform.

In FUN MOOC, the universities benefit from traffic, learners and visibility – three aspects known to be very important for a successful MOOC strategy. University membership of FUN MOOC is optional, but it is beneficial to universities to become members because in addition to the advantages derived from traffic, learners and visibility, there are no costs arising from physical infrastructure. As soon as they become members, everything is ready and available for universities to use as they wish. They also benefit from the platform's marketing and communication strategies. FUN MOOC has 29 members, but under the umbrella of one single "member" there can be a network of universities. In fact, therefore, FUN MOOC has up to 200 institutions using the platform, plus around 40 external partners.

There are three membership fee levels in FUN MOOC:

€5,000 a year: Universities can use the platform and offer two MOOCs. This is the starting level for small institutions, which can be upgraded at a later date

€20,000 a year: Universities can offer up to 10 MOOCs and these can also be reused, either with the university's own learners or by selling them to external parties. When the lecturers wish to use an MOOC as a SPOC with their own students, the content is duplicated in the FUN Campus platform. They can have up to two copies of each MOOC per year for SPOC purposes.

€50,000 a year: There is no limit to the number of MOOCs a university can offer and they can have five SPOCs per MOOC, per year.

MOOCs can also be used for corporate training. They can be replicated and provided to external organisations for a fee, from which FUN MOOC takes a percentage. The university is normally in charge of dealing with the client's request but on a few occasions FUN MOOC starts the dialogue and then involves the university. FUN MOOC charges a fee of 2.5K as an initial fee to set it up for an external organisation, and then 3 euros per student. All other income generated goes to the university.

There is also a "white label" option for public organisations that are not universities, such as national agencies, and wish to provide training on new regulations and the like to a broad audience, often civil servants. Since these organisations are public, they can join as FUN MOOC members. Corporate use of the platform also allows for a white label should it be requested, in order to customise content and appearance.

Policy dimensions and areas of action

FUN MOOC incorporates all the 10 dimensions of open education of the *OpenEdu Framework*¹⁵⁶. The platform is part of France's overall Digital **Strategy**, being of strategic value both to the Ministry and to the universities that are members of FUN. It is based on open source **technology** and has a **quality** charter that everyone must adhere to before putting an MOOC up on the platform.

In terms of **pedagogy**, creating an MOOC requires a lot of effort. It has therefore prompted new ways of teaching in which information exchange and constant professional

¹⁵⁶ <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101436/jrc101436.pdf>

development are necessities. Lecturers are not used to teaching with MOOCs so they make the effort to learn new methodologies compatible with this teaching mode. **Access** is also very important in FUN MOOC. The platform is open to everyone and there is a project on accessibility that started in March 2016, making content in the platform more suitable to different audiences.

FUN MOOC also has a strong **research** policy. The platform is for individual learners and the data is protected, not being used by third parties. However, universities that are members can ask for the data, which is shared anonymously for research in teaching and learning. **Leadership** has also been important in FUN MOOC since the beginning of the initiative, being played via different actors and the Ministry. FUN MOOC has a common goal for French HE institutions, which is also shared by universities elsewhere in the francophone world.

MOOCs are more than OER, and therefore they offer a **collaborative** environment where people can gather to discuss content and participate in peer-to-peer learning. To encourage the exchange and reuse of MOOCs between universities, FUN MOOC launched another platform called FUN Campus where only SPOCs are available. Finally, in terms of recognition of learning, FUN MOOC offers verified certificates and encourages universities to recognise each other's certification. Some member institutions already offer ECTS to the verified certificates.

Policy implementation and impact to date

FUN MOOC has been in place since 2013 and is constantly growing in terms of new members and external partners.

France – PIX initiative

Policy/initiative overview	
Policy title	PIX
Policy URL	https://pix.beta.gouv.fr/
Description of the policy	PIX is a way of evaluating the digital skills of individuals by awarding them a score (based on DigComp ¹⁵⁷), and it is also a means to open up resources to society.
Policy institution	Ministry of Higher Education and Research
Policy date	2016
Policy status	Current
Language	French
Policy jurisdiction	National and regional
E&T sector(s)	School education, Higher education, Adult Education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

¹⁵⁷ <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=6359>

Interviewee

Mehdi Gharsallah, strategic adviser for digital, Ministry of Higher Education and Research

Interview results

Vision of open education in the country; role of the Ministry

Open education means providing access to education for all, regardless of their social or financial status.

Policy design and involved stakeholders

France has a diverse model: FUN MOOC is part of it, PIX is another, and Superior Numérique (UNT) encompasses them all. FUN MOOC is our main initiative on open education. But there are eight UNTs (Universités Numériques Thématiques – Thematics Digital Universities) that have produced around 34,000 OER to date. These resources are accessible through the www.sup.numerique.gouv.fr/portal/, which allows access to many of the resources produced by French HE institutions. Concerning the MOOCs, they are hosted by eight different platforms, FUN MOOC being the biggest. MOOCs are not the only field of investment in open education. PIX, for example, offers new means of evaluating the digital skills of individuals. It provides a score (based on DigComp¹⁵⁸) and is also aimed at enhancing users digital culture and competences.

PIX is in beta version at the time of writing, with its expected launch date in September 2017. The principle is that many teachers are producing tests on this collaborative platform that learners can use to test themselves, and receive a score, in different areas of knowledge. If the learner submits a wrong answer they will be corrected and receive an explanation. For the more complicated tests the evaluation is peer-based among the members of the community. The business model is the same as for FUN: free for individuals and academics, and paid for businesses. The start-up was incubated by the Ministry until the launch of the beta version, and now a company is being created with academics as shareholders.

Policy dimensions and areas of action

PIX is a collaborative platform covering different dimensions of the *OpenEdu Framework*. At the moment there are 200 tests in the platform in terms of **content**, but the goal is to have more than 1K. Most tests are released with a CC license and can be reused, with the option to have many different versions of the same test in the platform, created by different users. In terms of **access** the beta version does not yet take accessibility into account but soon it will, and it will also be friendly to mobile technologies. In terms of **pedagogy** the model is “learn by testing” and can be used in the classroom or outside. At the moment there is no recognition of the learner in relation to the score they attain, in the sense that no certificate is issued, but this may change in the future. **Technology, leadership, quality** (there is no central control of quality because the development is still in its early stages) and **strategy** are all part of the French Digital Strategy – so **strategy** is the most important part.

Policy implementation and impact to date

It is too early to evaluate the policy impact of PIX because it is in Beta version and not all features have been launched.

¹⁵⁸ <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=6359>

Key barriers and enablers during implementation

PIX has a strong component based on the DigComp framework of the European Commission's JRC.

3.11 Germany (DE)

Open education in the country

With regard to OER and open education, Germany has been studied intensively in the last few years through EU-funded and other projects. In 2014 there was a POERUP country report¹⁵⁹ and tabular supplement¹⁶⁰. Studies by ADOERUP (for the European Parliament)¹⁶¹ and Oerup!¹⁶² (covering the province of Baden-Württemberg) followed in 2015. Also in 2015, the Federal Ministry of Education and Research (BMBF) commissioned a “Feasibility study on the construction and operation of OER infrastructures in education”, published in early 2016.¹⁶³ Later in 2016 the BMBF funded the project Mapping OER, conducted by Wikimedia Germany, and the latter also published a report on the state-of-the-art of OER.¹⁶⁴ In 2016 the OER Map project, in addition to its ongoing global role, published a specific OER Atlas¹⁶⁵ covering Germany and other German-speaking countries/regions. And in 2017 UNESCO published a study about OER in Germany in which the authors trace the development of OER and show that bottom-up OER activities have been complemented by a top-down process.¹⁶⁶

The move to open education

Until recently Germany had often raised objections¹⁶⁷ to the idea of OER, but in the past four years the general attitude has changed and some national policies have been enacted.

In November 2013, OER was a topic in the CDU/CSU–SPD¹⁶⁸ coalition agreement, with the shared position that *free digital teaching material must be strengthened by the state and the federal states*. The basis for this was an education- and research-friendly copyright law and an open-access policy stating that access to textbooks for schools and teaching materials for universities should be free as far as possible. The policy also states that the use of free licenses and formats should be extended.

Therefore, although it had not been expected that OER would become a policy priority in the near future, some actions in the field have taken place. Due to encouragement from teachers, educational institutions and non-profit organisations, a hearing took place in November 2012 with the Federal Ministry of Education and Research (BMBF) and the Standing Committee of the German Ministers of Education and Cultural Affairs (KMK), on the subject of OER-related issues and especially copyright challenges in digitising parts of textbooks for classrooms.

¹⁵⁹ <http://poerup.referata.com/wiki/Germany>

¹⁶⁰ http://poerup.referata.com/wiki/File:Open_Education_Initiatives_in_Germany.pdf

¹⁶¹ [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU\(2015\)563397_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU(2015)563397_EN.pdf), pp.120-124

¹⁶² http://www.oerup.eu/fileadmin/oerup/dokumente/need_analysis_report_MFG_Germany1.pdf

¹⁶³ https://open-educational-resources.de/wp-content/uploads/OER_Machbarkeitsstudie_Bericht.pdf
¹⁶⁴ <http://l3t.eu/oer/images/band10.pdf>

¹⁶⁵ <http://open-educational-resources.de/oer-atlas-2016-download/>

¹⁶⁶ https://open-educational-resources.de/wp-content/uploads/UNESCO_Report_-_German_OER.pdf

¹⁶⁷ “Germany was the only country who responded that the OER issue is not expected to become a policy priority in the near future. They also stated that they do not consider a lack of learning material in digital format (especially in English) to be one of the major problems in education; therefore, the potential benefit of OER in Germany is not highly rated.” OPEN EDUCATIONAL RESOURCES: ANALYSIS OF RESPONSES TO THE OECD COUNTRY QUESTIONNAIRE, EDU Working Paper 76, 2012, p. 8 –

[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP\(2012\)13&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2012)13&docLanguage=En)

¹⁶⁸ Political parties in Germany, standing for: Christlich Demokratische Union (CDU); Christlich Soziale Union (CSU); Sozialdemokratische Partei (SPD).

In 2013 the Federal Ministry of Education and Research (BMBF) launched three surveys with the aim of providing a solid basis for future policy-making with regard to OER:

- OER – fields of action, stakeholders and perspectives from an international perspective (Freie Bildungsmedien (OER). Dossier: Offene Bildungsressourcen / Open Educational Resources – Handlungsfelder, Akteure, Entwicklungsoptionen in internationaler Perspektive)¹⁶⁹
- Judicial matters concerning Open Content and Copyright (*Open-Content und Urheberrecht*)¹⁷⁰
- Metadata for OER (*Metadaten für Open Educational Resources*)¹⁷¹.

Then in 2015, a joint working-group at the federal and regional level (Bund-Länder-Arbeitsgruppe), set up specifically to address issues related to OER, came to the conclusion that OER may well have positive effects on learning and teaching, and recommended support for the spread of OER in Germany. In 2015 the BMBF initially commissioned a feasibility study on infrastructure that aimed to make it easier for learners to find OER, and also promoted a dialogue process to clarify unresolved issues in connection with OER (quality assurance, legal and licensing issues, possible business models, qualification models).

In early 2016, as presented below, the BMBF presented its funding programme “OERinfo” aimed at further mainstreaming Open Educational Resources.

At the federal level Germany plays an active role in the long-term process of mainstreaming OER under the aegis of UNESCO and it also supports the Ljubljana Action plan 2017¹⁷².

Open Access

The BMBF started an open access Strategy for scientific publications in September 2016, to be distributed via the internet either in an online open access journal, on a website or in a so-called “repository”.

A key action of the new BMBF strategy is the introduction of an open access clause for all the projects it funds. Scientific articles originating from BMBF-funded projects should either be published directly under an open access model or should be placed in an appropriate document server after an embargo period¹⁷³, typically of 12 months.

In addition, the BMBF will support the Länder, universities and research institutions with a national competence and networking site to develop their open access activities. The BMBF is also funding a competition of innovative ideas that will help to anchor the new publication formats at universities and research institutions.

Even now the OpenDOAR portal reports¹⁷⁴ an impressive 193 open access repositories, which is more than two for every million German citizens.

“Open Universities”

In parallel and not yet closely connected, Germany has been investing in ICT in higher education activities. The first policy presented below, Advancement through Education:

¹⁶⁹ http://www.pedocs.de/volltexte/2013/7868/pdf/DBS_2013_OER.pdf

¹⁷⁰ http://www.pedocs.de/volltexte/2013/8008/pdf/Kreutzer_2013_OER_Recht.pdf

¹⁷¹ http://www.pedocs.de/volltexte/2013/8024/pdf/TIB_2013_Metadaten_OER.pdf

¹⁷² https://en.unesco.org/sites/default/files/ljubljana_oer_action_plan_2017.pdf

¹⁷³ <https://www.chemistryworld.com/news/political-push-for-open-access-in-germany/1017484.article>

¹⁷⁴ <http://www.opendoar.org/find.php?cID=81&title=Germany>

Open Universities, is a competition programme that follows the 2008 qualification initiative Advancement through Education, which aimed to enhance educational opportunities for everyone at different stages of learning and to improve citizens' employment prospects.

The second policy presented is Germany's core OER funding programme, *OERinfo*.

Germany – “Open Universities” initiative

Policy/initiative overview	
Policy title	Advancement through Education: Open Universities 2011-2020
Policy URL	http://www.wettbewerb-offene-hochschulen-bmbf.de
Description	<p>In a first nationwide contest the Federal Ministry of Education and Research (BMBF) is currently funding 26 projects from universities and university networks, with a further 47 projects funded in the second round. The aim is to develop open study programmes for working adults and other target groups in order to a) permanently secure the supply of skilled workers, b) improve permeability between vocational and academic education, c) ensure a more rapid transfer of knowledge into practice, and d) raise the profile of the universities in the field of lifelong learning.</p> <p>The projects are based on a variety of formats, including part-time courses, sandwich courses, study modules and certificate offers. The first round started in 2011 and the second in 2014.</p> <p>The first round of projects come to an end in September 2017. A second funding period of the second round is scheduled to start in February 2018.</p>
Institution	Federal Ministry of Education and Research (BMBF)
Policy date	2011
Status	Current
Language	German
Jurisdiction	National
E&T sectors	Higher education (including vocational HE), Adult learning
Dimension of impact	<p>Core dimensions</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Access</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Content</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Pedagogy</p> <p><input type="checkbox"/> <input type="checkbox"/> Recognition</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Collaboration</p> <p><input type="checkbox"/> <input type="checkbox"/> Research</p> <p>Transversal dimensions</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Strategy</p> <p><input type="checkbox"/> <input type="checkbox"/> Technology</p> <p><input type="checkbox"/> <input type="checkbox"/> Quality</p> <p><input type="checkbox"/> <input type="checkbox"/> Leadership</p>

Interviewee

Ida Stamm, Senior Consultant, VDI/VDE Innovation, Technik GmbH on behalf of BMBF

Interview results

Vision of open education in the country; role of the Ministry

The Federal Ministry of Education and Research¹⁷⁵ understands open education as a means to widen participation for new target groups that normally do not enrol in university programmes straight after leaving school. Also, open education is understood as a route to effectively develop skills towards improving the competences of workers, and therefore

¹⁷⁵ <https://www.bmbf.de/en/index.html>

towards achieving the development of a highly skilled workforce. In this sense the role of the Fachhochschulen¹⁷⁶ (Universities of Applied Sciences) is key, since they offer part-time courses aiming at opening access to education to adult learners.

Policy design and involved stakeholders

The initiative **Advancement through Education: Open Universities 2011-2020** responds to the need to democratise access to higher education programmes for people who normally do not have a chance to participate in them, whether because their vocational studies did not allow access to HEIs or because previously there was not enough of an offer of part-time and blended learning options. The policy has been designed by the Central Government and by the Federal States, by agreeing both on the implementation of the policy and on its funding scheme. To ensure the quality and consistency of the policy, its plan has been assessed and improved by international experts from German-speaking countries. The key stakeholders of the policy are the German Central Government, the Federal Ministry of Education and Research and its agencies, the Federal States, the universities, the universities of applied sciences, the universities of the arts, and all those institutions that provide lifelong learning opportunities at Vocational Education level.

Policy dimensions and areas of action

The main dimensions and areas of action are related to widening participation and opening up access to higher education, and to providing further qualifications so as to promote the development of competences for the country's labour force. Digital technologies are key in order to ensure participation is widened via the enhancement of the lifelong learning offer across the country – including digital learning materials and MOOCs, as these will not only train academics to teach mature students and to create new programmes, but more importantly to democratise access to high-quality education and training.

Policy implementation and impact to date

The first evaluation round of the initiative will be completed later in 2017. Since the start of the initiative in 2015, more than 110 new study courses have been implemented – both in face-to-face and blended modes – in different subject areas such as applied and natural sciences, with the exception of healthcare and other social sciences subjects. Also, due to the initiative, a considerable number of MOOCs have been developed by German universities and are being adopted in the context of lifelong learning for workers. Another interesting aspect that has had a big impact in relation to the implementation of the initiative has to do with the accreditation and recognition for access to higher education of the vocational training diplomas, which is a key enabler to facilitate workers' access to universities and universities of applied sciences.

One important outcome of the initiative **Advancement through Education: Open Universities 2011-2020** is the Open Applied Sciences Universities Bremen (Offene Hochschulen Bremen)¹⁷⁷ project, a consortium of universities from Bremen State¹⁷⁸ that provides a wide formative offer for non-traditional and new target groups.

¹⁷⁶ <https://en.wikipedia.org/wiki/Fachhochschule>

¹⁷⁷ <http://www.offene-hochschulen-bremen.de/home/>

¹⁷⁸ Bremen is the smallest of the 16 German states – [https://en.wikipedia.org/wiki/Bremen_\(state\)](https://en.wikipedia.org/wiki/Bremen_(state))

Key barriers and enablers during implementation

The main barriers encountered during the implementation were the tensions between the Central Government and the different Federal States, which led to long and complicated negotiations on different aspects of the initiative, slowing down its start-up phase. Also, considering that both traditional and applied sciences universities are facing an important transformation and modernisation phase, a certain level of reluctance exists among academics who will be affected in different ways: educators from traditional universities (Universitäten), who normally have more hours of research than teaching; and from applied science universities (Fachhochschulen), whose contracts normally do not include research and are now expected to increase their teaching hours to teach in the new blended and part-time courses, which they view as an increase in their workload.

Relation between the policy and EU-level developments

The structure of Germany as a federal state makes the initiative **Advancement through Education: Open Universities 2011-2020** quite complex, as its implementation and success depend on a wide range of actors at national and federal level, including traditional universities, universities of applied sciences and vocational training centres, which typically respond to policies at the state level. The fact that the latest university reforms in Germany have been built in line with EU frameworks, such as the Bologna Process, is a key enabler: national pressure for modernisation is not sufficient on its own, and the guidance of the EU has been crucial in order to modernise the German higher education system.

Lessons learned and suggestions for future open education policies

In the eyes of the interviewee, the lessons learned are related to the negotiation between the central government and the federal states, as reaching a compromise and common ground can be challenging given that some federal states are more open to change than others.

As for future policies aiming at opening up education, the main **recommendation** provided during the interview is to include a system to support the Recognition of Prior Learning, thus making it possible to transform lifelong learning and vocational training systems, thereby opening up and democratising access to higher education.

Germany –OERinfo

Policy/initiative overview	
Policy title	OERinfo
Policy URL	http://open-educational-resources.de
Description of the policy	<p>The German funding programme <i>OERinfo</i> has two main strands that are linked to each other.</p> <ol style="list-style-type: none"> 1. A hub is created that bundles information on the subject and spreads it to institutions and individuals. 2. Projects across educational sectors that promote measures to raise awareness and instruct people entrusted with the education and training of educational staff. Within this funding line, 23 projects started from November 2016 onwards, aiming to promote OER in Germany.
Policy/initiative overview	
Policy institution	Ministry
Policy date	2016
Policy status	Current

Language	German
Policy jurisdiction	National and regional
E&T sector(s)	Lifelong Learning
Dimension of impact	<p>Core dimensions</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Access</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Content</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Pedagogy</p> <p><input type="checkbox"/> <input type="checkbox"/> Recognition</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Collaboration</p> <p><input type="checkbox"/> <input type="checkbox"/> Research</p> <p>Transversal dimensions</p> <p><input type="checkbox"/> <input type="checkbox"/> Strategy</p> <p><input type="checkbox"/> <input type="checkbox"/> Technology</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Quality</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> Leadership</p>

Other strategic papers issued by various institutions are relevant for the discussion on OER in Germany, but cannot be qualified as national policies.¹⁷⁹

Interviewees

Dr. Barbara Getto, University of Duisburg-Essen, Head of Mainstreaming OER, and Richard Heinen, Project Lead Digital Education, Montag-Stiftungen. *Mainstreaming OER is one of 23 projects funded by the national policy OERinfo* and is located in North Rhine Westphalia

Complemented by Dr. Charlotte Echterhoff, Scientific Officer, DLR Project Management Agency, on behalf of BMBF.

Vision of open education in the country; role of the Ministry

The policy on open educational resources is part of the BMBF's broader strategic policy approach on digital education, which consists mainly of the strategic educational operation for the digital knowledge society.¹⁸⁰

Very recently the KMK published a strategy document entitled *Learning in the digital age*¹⁸¹, based on an open consultation process which has engaged all relevant stakeholders and which will represent a common starting point at the national level for future activities dealing with open education.

At the federal level Germany supports the long-term process of mainstreaming OER under the aegis of UNESCO and supports the Ljubljana Action Plan 2017¹⁸².

Policy design and involved stakeholders

As stated above, the funding line was a result of a continuous exchange between the federal Ministry and the states on the potentials of OER. To get further information on the preconditions for mainstreaming OER, the BMBF funded the project mapping OER which conducted a multi-stakeholder dialogue on framework conditions such as training for stakeholders and licensing questions.

¹⁷⁹ See *German universities' position on OER* from HRK (the Rectors' conference) and three White Papers on OER: <http://open-educationals-resources.de/oer-whitepaper/>

¹⁸⁰ https://www.bmbf.de/pub/Bildungsoffensive_fuer_die_digitale_Wissensgesellschaft.pdf

¹⁸¹ <https://www.lmz-bw.de/kongress2016.html>

Policy dimensions and areas of action

Within the funding line **OERinfo**, the Oerinfo hub and 22 projects have been launched since November 2016, covering mainly HE and schools but also VET and LLL across Germany, which focus on qualifying people to enhance the use of OER¹⁸³ in their institutions. In terms of funding, for the next two years the policy is to receive €6.3 billion for the 23 projects.

Policy implementation and impact to date

It is too early to try to discern the impact of **OERinfo** since some projects started only in early 2017. However, the OER community in Germany is better connected than ever and is searching for solutions on how to promote OER outside the community.

Key barriers and enablers during implementation

The main expected challenge is the lack of awareness about OER and the limited understanding of the benefits of producing learning content in the form of OER. Awareness exists among the e-learning and digital learning community, but not beyond. It will be important to make clear to teachers and managers that the approach is not only about OER and infrastructure but also about a new way of looking at teaching and learning. In other words, while it is important to work on infrastructure and on OER, the key for the **OERinfo** policy's success will be to keep focusing on the main objective so as to have an impact on the whole system.

Relation between policy and EU-level developments

At the moment there is no direct cross-border collaboration with other German-speaking countries: the policy is limited to German institutions.

Suggestions for future open education policies

In terms of suggestions, the interviewees recommended that there should be more funding lines for OER and open education within European programmes such as Erasmus+, even if participation in EU projects is very competitive and institutions (in Germany) tend to prefer to apply for national funding.

Furthermore, they stated that legal guidelines on OER and copyright from the EU **could help** the discussion at the national level, that it is **important** to keep talking and raising awareness about open education, and that the EU could help keep the discussion alive in Member States.

¹⁸³ <http://www.bildungserver.de/Studien-zur-Diskussion-um-Potenziale-freier-Bildungsmedien-Open-Educational-Resources-initiiert-durch-das-BMBF-10828.html>

3.12 Greece (EL)

Open education in the country¹⁸⁴

The Greek government has used EU grants to promote OER, with an implicit, if not explicit, policy of encouragement. In fact Greece has significant OER activity (as documented in POERUP¹⁸⁵ and the OER World Map – which has a Greek contact point). To add to the national programmes, which will be discussed further below, these two are worth noting:

- The initiative Mathisi 2.0 plus¹⁸⁶ fosters knowledge-building and collaboration in the area of social media and open learning communities in Greece. It has a very strong social media presence.
- Veria Central Public Library¹⁸⁷ gives access to a large digital repository comprising the library's collection, including the collections of the Monastery of St. John the Baptist, Skete Veria, and the Lyceum of Greek Women, an annex of Veria. The initiative is supported financially by the *Public Libraries digitisation action* of the Information Society Operational Programme (80% contribution by the European Social Fund). Through a set of metadata mechanisms the Central Public Library of Veria provides its digital content to the European culture portal Europeana.¹⁸⁸

Greece is not yet very active in MOOCs but the developments with regard to open courses¹⁸⁹ should be noted, as should the increasing number of in-country analytic papers¹⁹⁰ on the topic of MOOCs.

The OpenDOAR portal reports¹⁹¹ 35 open access repositories in Greece, a high number for the country's population.

Digital schools

The Digital School initiative¹⁹² by the former Ministry of Education, Religious Affairs, Culture and Sports (now the Ministry of Education, Research and Religious Affairs),¹⁹³ contains the official repository¹⁹⁴ of all the textbooks in the form of e-books for all levels of education (primary, secondary, upper secondary and professional education). It is not clear whether all these textbooks are in OER format but many are. It is also not clear whether they are oriented to independent study (their content was not designed in a mode allowing its reinvestment into contexts other than the formal learning setting), but they are a useful set of resources.

In its response to the 2012 OECD questionnaire, Greece noted that the documents describing the function and areas of responsibility of the directorate that handles the

¹⁸⁴ There is a 2014 POERUP report on OER in Greece¹⁸⁴ and wider but older (2011) reports on ICT in education in schools and universities, e.g. by the VISCED project¹⁸⁴.

¹⁸⁵ Only two entries made it into the POERUP database; but the narrative report, written by a Greek expert, contains many more examples – http://poerup.referata.com/wiki/Greece#OER_Initiatives_in_Greece

¹⁸⁶ <http://mathisi20.gr>

¹⁸⁷ <http://medusa.libver.gr>

¹⁸⁸ <http://www.europeana.eu/portal/en>

¹⁸⁹ <http://opencourses.gr/index.xhtml> and *Open courses in a Greek higher education institution: faculty views and attitudes* (http://hci.ece.upatras.gr/files/c203_Avouris_Komis_Garofalakis_ICODL2015.pdf, 2015)

¹⁹⁰ Such as <http://conta.uom.gr/conta/publications/PDF/2014-%20INTED-%20MOOCs%20for%20foreign%20language%20learning.pdf> and

¹⁹¹ <http://www.opendoar.org/find.php?cID=84&title=Greece>

¹⁹² <http://dschool.edu.gr>

¹⁹³ <http://www.minedu.gov.gr/> – for News in English see <http://www.minedu.gov.gr/grafeio-typoy-kai-dimosion-sxeseon/news-in-english>

¹⁹⁴ <http://ebooks.edu.gr>

educational portal in the then Ministry of Education, Religious Affairs, Culture and Sports of Greece made reference to OER.

The same applies to the country's Digital Learning Supportive Materials (Psifiaka sholika voithimata),¹⁹⁵ also created under an initiative of the Ministry of Education, Religious Affairs, Culture and Sports. These materials are all available under Creative Commons licences.

Earlier interventions

There were a series of earlier but still quite recent policy interventions. The operational programme¹⁹⁶ Education and Lifelong Learning 2007-2013 was a large-scale, nationwide funding programme, part of the 4th programming period co-funded by the European Social Fund (ESF) and the Greek government. It was the main funding scheme for upgrading the quality of learning at all levels of the educational system, involving the use of Internet technologies. The programme consisted of four sets of thematic priority axes, clustered in groups of three: "Upgrading the quality of education and promoting inclusion"; "Upgrading the systems of initial vocational training and vocational education and linking education with the labour market"; "Enhancing lifelong education for adults"; and "Enhancing human capital in order to promote research and innovation".

Within the first set of priority axes, 1, 2 and 3, there were special objectives addressing the need for ICT-based learning such as: reforming, modernising and decentralising the educational system; reinforcing the mobility of pupils and students; accelerating the rhythm of integrating ICT into the education process; and reinforcing and improving the quality of teaching-staff training in primary and secondary education, with an emphasis on innovation and the use of ICT. In addition, several ICT-enhanced educational initiatives have been targeted, such as the development of digital educational content, the creation of digital knowledge repositories, and the design and implementation of e-training programmes for teacher trainers and stakeholders in the area of lifelong learning.

However, the economic situation in Greece has not been helpful for progress in these areas.

Open Government Plan

For the policy interview it was decided to focus on the 3rd National Action Plan on Open Government 2016-2018. Unlike most of the OGP Action Plans¹⁹⁷ lodged by Member States, many of which do not have much of a focus on education, this had a clear commitment to open education.

Policy/initiative overview	
Policy title	3rd National Action Plan on Open Government 2016-2018
Policy URL	http://www.opengovpartnership.org/sites/default/files/GREEK_NAP3-OGP-ENG.pdf

¹⁹⁵ <http://www.taexeiola.gr>

¹⁹⁶ http://www.edulll.gr/?page_id=32

¹⁹⁷ For access to these, link from <http://www.opengovpartnership.org/countries>

Description of the policy	<p>Within the 3rd National Action Plan on Open Government 2016-2018, Commitment 20 is on open education. The main planned activities are:</p> <ul style="list-style-type: none"> • Study for the inventory of available OER • Platform to provide the educational content • Legal assistance for procurement process which will cover open issues • Educational actions for information and awareness-raising on open licenses and OER at conferences, one-day summits, etc. • Participation in educational conferences • Organisation of conferences or one-day summits focusing on open education
Policy institution	Ministry of Education, Research and Religious Affairs
Policy date	2016
Policy status	Current (Open Education work will start in May 2017)
Language	English
Policy jurisdiction	National
E&T sectors	School education, Higher education, VET, Adult learning
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategy <input type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewee

John Vrettaros, Unit of Digital systems in LLL, Directorate of Digital Governance, Ministry of Education, Research & Religious Affairs

Interview results

Vision of open education in the country; role of the Ministry

The main policy of the Ministry of Education¹⁹⁸ under the current leadership revolves around the idea that open educational data and materials belong to everyone. The Ministry of Education plays the core role in open education in relation to the other ministries. The country has the clear political goal of opening up education.

Policy design and involved stakeholders

The interviewee was involved as a policymaker and researcher in the design, implementation and assessment phase of the **3rd National Action Plan on Open Government 2016-2018**. The implementation of the policy was important for improving education and also the democratisation of education.

The two main open education projects launched by the Ministry in the frame of the Action Plan were the Open Academic Lessons and the depository Photodentro¹⁹⁹, with the

¹⁹⁸ The interviewee is using the short name for the *Ministry of Education, Research and Religious Affairs* – <http://www.minedu.gov.gr>

¹⁹⁹ <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

purpose of creating open lessons on all academic levels for everyone. These two projects together cost €25 million. Many more projects are due to be funded for the implementation of the open education policy across all education levels.

Policy dimensions and areas of action

The policy dimensions of the **3rd National Action Plan on Open Government 2016-2018** that are most important are as follows: Open data, Open materials, Open lessons, Open collaborations, Open research, Open Certification, Open source.

Policy implementation and impact to date

The two projects mentioned above²⁰⁰ have been a great success from the perspective of the beneficiaries, but further improvements can be made so as to benefit a wider range of people. There were other programmes of lesser importance and scale. In order to make open education a reality, a national strategy across all of open education must be implemented and coordinated.

Key barriers and enablers during implementation

The main barrier was the preparation of the trainers. This challenge can be faced if the trainers receive proper and continuous training across all educational levels.

Relation between policy and EU-level developments

The interviewee observed that the EU initiatives are proving to be a great success and that Greece would like to be a part of this whole EU-led initiative on opening up education.

Suggestions for future open education policies

In terms of **suggestions** the interviewee noted that the EU should enforce the standards on open education in every Member State and that it **should possibly also provide multilingual good practices** for all Member States.

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."

²⁰⁰ Open Academic Lessons and Photodentro

3.13 Hungary (HU)

Open education in the country²⁰¹

In Hungary the Digital Renewal Action Plan 2010-2014²⁰² was said to promote the use of OER in line with the recommendations and goals of the Europe 2020 Digital Renewal Action Plan strategy. The full text of this plan in English seems now to be unavailable on the web, but it can still be accessed²⁰³ in Hungarian. Another summary report²⁰⁴ states that the plan:

includes four action plans which deal with ensuring equal opportunities for citizens, increasing the competitiveness of enterprises and the improvement of the ICT infrastructure of the country. The Hungarian government hopes that the information communication sector will provide a breakthrough for the country since an increased number of digitally literate citizens will contribute to a higher economic performance for the country.

There was a new Digital Strategy²⁰⁵ published in 2016. It is available only in Hungarian but terms such as “open access”, “open education resources” and “open courses” are often emphasised in the text. Developments have been limited, however, whether with regard to OER, MOOCs or distance learning: there is little OER activity in higher education. More specifically, no Hungarian university is a member of the Open Education Consortium; there are not many MOOCs originating from Hungary, though now there are a few from the K-MOOC project²⁰⁶; and there are just three (accredited) distance learning programmes listed.

Open access, in contrast, is well developed. Since 2007 a government decree has mandated that all funded researchers must deposit their results in an OA repository or publish them in an OA journal. This also applies to doctoral dissertations. The OpenDOAR portal lists 35 open access repositories²⁰⁷ for Hungary, which is quite a higher number in relation to the total population. Open Data is also an active area²⁰⁸. The Hungarian government decided that from April 2012 public administrations should only provide official documents in internationally recognised open standards-based document formats and must be able to accept and process such documents. The Hungarian government also recommends²⁰⁹ that public administrations and other public organisations switch to free open source office software – otherwise, they will need to give reasons for their continued use of proprietary software.

Extensive desk research and consultation (mainly face to face at several meetings) did not surface in any recent policy proposals in the mainstream open education or ICT in education areas. However, these conversations did point to interesting initiatives at the institutional level.

²⁰¹ Hungary has been intensively studied in respect of OER and open education in the last few years. There was a POERUP country report as recently as 2014 that embedded OER, MOOC and related open education activities in the context of ICT for education. There was a more recent study (2015) by ADOERUP (for the European Parliament)²⁰¹. In the D-TRANSFORM study²⁰¹ *Business Models for Opening Up Education* that analysed six Member States, Hungary was one of the countries covered. For some background on distance learning in Hungary see the 2016 IDEAL report²⁰¹ *Distance Education in Hungary*.

²⁰² <https://ec.europa.eu/growth/tools-databases/dem/initiatives/2302/digital-renewal-action-plan-2010-2014> contains a summary

²⁰³ http://www.terport.hu/webfm_send/2709

²⁰⁴ http://ppemi.ens-cachan.fr/data/media/colloque140528/rapports/HUNGARY_2014.pdf

²⁰⁵ <http://www.kormany.hu/download/0/cc/d0000/MDO.pdf>

²⁰⁶ <https://kmooc.uni-obuda.hu>

²⁰⁷ <http://www.opendoar.org/find.php?cID=97&title=Hungary>

²⁰⁸ See for example <http://opendata.hu/about>

²⁰⁹ <https://joinup.ec.europa.eu/community/osor/news/hungary-increase-use-open-source-software>

Initiatives at Budapest University of Technology and Economics (BME)

BME operates an open portal, ALFA²¹⁰, rather similar to an MOOC, which aims to promote mathematics and physics courses for students. The portal states that:

In our experience, especially with varying levels of previous studies, mathematics and physics prove to be tough hurdles to climb for our new students, irrespective of their individual specialisations. It is very important for our university to ease our new students' adjustment... At this site you can solve problems in mathematics and physics to help you prepare for your undergraduate studies. The topics covered are not comprehensive, they rather focus on areas that we consider most important for your studies at our university."

In September 2016, with support from the Hungarian Academy of Sciences, BME started a four-year project²¹¹ to provide methodological support to the open curriculum development at BME and a number of partner sites. The site observes:

Due to the complex nature of the subject, the new kind of electronic materials and contents will be developed and piloted in a vast scope of vocational training, namely in the fields of mechanical engineering, information technology, engineering and economics. The efficiency monitoring and the summary of the research results are to be evaluated in connection with the school subjects of the secondary vocational training.

During the research and development, the creative involvement of the vocational partner institutions and their teachers is a priority in the first phase of the project (2016-2018) in the four assigned and engaged vocational schools. After the first piloted part, in the second phase the preparations for extending the project among a wider circle of specific vocational schools are to be made, ensuring that an innovative methodological network of 10-12 institutions will be formed in which the teacher-student-centred interactive open content development and its effects are to be analysed and evaluated in practice. Based on our findings, recommendations for wider vocational piloting and the consideration of the research results in vocational teacher-training will be made.

K-MOOC project

In 2015 the minister responsible for maintaining contact with diaspora Hungarians living abroad developed a policy to support them via MOOCs under the K-MOOC²¹² project. A Carpathian Basin Online Education Centre has been set up, supported by a consortium of universities led by Óbuda University, a university of advanced technology.²¹³ Participants come from Hungarian universities, colleges, and trans-border Hungarian-language higher education institutions in nearby countries. The K-MOOC policies include rules for credit transfer. K-MOOC course institutions²¹⁴ apart from Óbuda University include the University of Debrecen (the oldest continually operating institution in Hungary), together with Charles Esterhazy University and Kaposvár University (two new universities), and Dennis Gabor College (a private institution).

Interviewee

András Benedek, Professor, Head of Open Content Development Research Group, Budapest University of Technology and Economics

²¹⁰ <https://alfa.bme.hu/?lang=en>

²¹¹ <http://www.ocd.bme.hu/en/main/>

²¹² <https://kmooc.uni-obuda.hu>

²¹³ Originally founded in 1879 – <http://bgk.uni-obuda.hu/en/faculty/our-history>

²¹⁴ <https://www.uni-obuda.hu/en/>; <http://www.edu.unideb.hu/>; <https://uni-eszterhazy.hu/en/>; <http://english.ke.hu/>; and <http://dennis-gabor-college.eu/>

Interview results

Vision of open education in the country; role of the Ministry

The vision in the country is to establish and support an open learning environment, to organise open courses for students and adults mostly in HE and adult education, and to develop Open Educational Resources for those attending open (formal or non-formal) education. The Ministry forms the strategy (now the National Digital Education Strategy 2016) and takes leadership of the national projects in this field. There is a clear political goal related to opening up education. Although educational practice is rather conservative in Hungary, the target-setting in this strategy is clear.

Policy design and involved stakeholders

The educational institutions generally are key to the real reform steps towards open education. In recent years, however, the universities in particular have been very conservative.

Policy implementation and impact to date

With reference to the former policy on infrastructure development projects 2012-2016 (large distribution of smart boards, pupils' tablets, expansion of internet access), this had limited success.

Key barriers and enablers during implementation

Key barriers in the infrastructure development projects 2012-2016 were, first, a lack of methodological innovation, and second, issues of physical sustainability of the equipment. The key enabler is to make concerted efforts to change the attitude of the HE leadership, in particular their rigid academic mindset, in order to transform the role of their institutions in the new innovation process.

Relation between policy and EU-level developments

Hungarian institutions aim to keep in touch with EU developments – for example my institution sent several senior delegates to the EU-funded Digital Leadership School in Barcelona last November, where EU experts were present.

Lessons learned and suggestions for future open education policies.

The key **recommendation** provided by the interviewee is for the EU to support processes aimed at changing the thinking of institutional leaders.

3.14 Ireland (IE)

Open education in the country

Although there is no official policy document on open education in Ireland, there have been a number of recent developments in the higher education sector. In terms of language the term “flexible learning” incorporates both online and face-to-face provision for on-campus students but also opportunities for learning at a distance, harnessing the potential of technology. Part-time and distance learning courses have to charge fees since there is no government support (unless the distance learning course is full-time). Currently there is no student loan system in place. There are some moves²¹⁵ to change this, which have not resulted into a policy as yet.

The National Strategy for Higher Education to 2030 made a large number of recommendations, but none mentioned OER or open education specifically. However, in May 2014 the report *Building Digital Capacity in Irish Higher Education*²¹⁶ was published, containing several references to “open education”, and a Call for Proposals was released which invited higher education institutions “to make collaborative proposals for funding under the Teaching and Learning Enhancement Fund 2014 (Building Digital Capacity in Irish Higher Education). The fund amounts to €6 million and the total investment is over a 3-year time-frame ending in 2016.”

In terms of open access, the *National Principles for Open Access Policy Statement*²¹⁷ is designed to support the free flow of information across national and international research communities; to support the principle of research-enabled teaching and learning and the generation of Open Educational Resources (OER); to contribute to Open Innovation through richer and more effective knowledge transfer and diffusion; and to support greater transparency, accountability and public awareness of the results of publicly funded research.

The most relevant policy for open education is the National Forum for the Enhancement of Teaching and Learning in Higher Education.

²¹⁵ <http://www.irishtimes.com/news/education/q-a-how-the-proposed-student-loan-scheme-would-work-1.2717914>

²¹⁶ <http://www.teachingandlearning.ie/wp-content/uploads/2015/03/Digital-Roadmap-web.pdf>

²¹⁷ <http://openaccess.thehealthwell.info/sites/default/files/documents/NationalPrinciplesonOAPolicyStatement.pdf>

Policy/initiative overview	
Policy title	National Forum for the Enhancement of Teaching and Learning in Higher Education
Policy URL	http://www.teachingandlearning.ie
Description	<p>The National Forum for the Enhancement of Teaching and Learning in Higher Education aims to enhance teaching and learning for all students in higher education.</p> <p>The Forum will engage in a range of activities aimed at:</p> <ul style="list-style-type: none"> • Championing all those who contribute to great teaching and learning in higher education • Inspiring great practice • Developing teachers and learners • Identifying and promoting best practice in professional development • Building digital capacity • Promoting key enhancement themes • Enabling innovation in a fast-changing educational environment.
Institution	Higher Education Authority
Policy date	2012
Status	Current
Language	English
Jurisdiction	National
E&T sector	Higher education
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewee

Terry Maguire, Director, National Forum for the Advancement of Teaching and Learning in Higher Education

Interview results

Vision of open education in the country; role of the Ministry

In recent years the Irish Higher Education Authority²¹⁸ has promoted mainly open access and open data, but also open education is progressively gaining ground in the policy discourse and has come to be considered a key asset for improving education by building digital capacity among academics. The role of the authority is to promote innovation and quality assurance in education²¹⁹ and to provide funding for HE, including financing the National Forum for the Advancement of Teaching and Learning in Higher Education, which is its (academically led) advisory body for teaching and learning.

²¹⁸ <http://www.heai.ie>

²¹⁹ Via Quality and Qualifications Ireland, a sub-agency – <https://www.qqi.ie>

Policy design and involved stakeholders

Starting from the principles contained in the *Innovation 2020* document²²⁰ and in the *National Strategy for Higher Education to 2030*²²¹, the National Forum for the Enhancement of Teaching and Learning in Higher Education was set up in 2012, aiming to enhance teaching and learning and to promote collaboration among universities, institutes of technology and private colleges, along three main pillars: professional development, digital capacity (including a roadmap, with a strong focus on open access and open education), promotion of equality. The project was launched after a consultation with the HE sector. The role of the National Forum is to promote innovative, fresh thinking; to share good practice; to transcend both collaboration and competition; and to raise national standards, thereby establishing Ireland as a national role model.

The National Forum aims to be an agent of change to support the adoption of open educational practices and to build digital capacities among academics in Ireland. The vision is to attribute to open education the same level of importance in HE that open access and Open Data currently have. The core role of the Ministry was to represent the voice of the educators, highlighting the importance of teaching and learning in HEIs and aiming to promote equal status for Open Access, Open Data in research, and Open Educational Resources in teaching and learning. The initial funding was €900,000 per annum for operative costs plus €2 million per annum for three years' enhancement funding, distributed across the sector via calls for projects and competitions which include projects involving students.

Policy dimensions and areas of action

The **National Forum for the Enhancement of Teaching and Learning in Higher Education** aims to enhance teaching and learning by strengthening collaboration among universities and institutes of technology, along the following four pillars: Professional Development, Digital capacity-building, National awards for excellence, and improving the quality of STEM education.

Policy implementation and impact to date

The main objective, which was to launch a national digital platform for HE collaboration, was achieved. Nowadays the National Forum is working on building capacity and raising awareness in OE within the sector. What the policy achieved, in summary, is the following: it sponsored research on open access for learning content²²²; granted every HE institution in Ireland its own open repository, or access to one; launched a peer-reviewed process to recognise innovative strategies for T&L through these materials; offers collaborative spaces for open collaboration on any subject; and works closely with all the institutions in the sector and has a designated National Forum Associate in each institution that works with the Forum team to identify the priority areas for development for the sector. An example of a funded project is "All-Aboard"²²³, which aims to identify the wide range of digital skills and knowledge that students, and all those who work in Higher Education, will need in order to feel confident and creative when learning, working and exploring the digital world in the years to come.

²²⁰ <https://www.djei.ie/en/Publications/Publication-files/Innovation-2020.pdf>

²²¹ http://www.heai.ie/sites/default/files/national_strategy_for_higher_education_2030.pdf

²²² Learning resources and open access in higher education institutions in Ireland, 2015, <http://www.teachingandlearning.ie/wp-content/uploads/2015/07/Project-1-LearningResourcesandOpenAccess-1607.pdf>

²²³ <http://allaboardhe.org>

The Higher Education Authority has commissioned an evaluation of the Forum that will report in April 2017. This evaluation will recommend what structure and function the Forum should have in future.

Key barriers and enablers during implementation

One of the main difficulties observed, especially within the universities, is the lack of parity of esteem between research, on the one hand, and teaching and learning on the other. Academics tend to be assessed and promoted based on the quality of their research rather than their teaching excellence. This challenge can be addressed by giving a voice to the teachers, by changing perceptions of the value of teaching and learning, and by reaching out to educators within their institutions through the organisation of events and capacity-building opportunities. The recent publication and current implementation of a national professional development framework for those who teach in higher education should help to support a commitment to teaching excellence.

Relation between policy and EU-level developments

The policy is framed within the EU framework towards higher education modernisation, aiming at achieving teaching and learning excellence, and aims to produce good practices for academic development that can be shared internationally at European level.

Lessons learned and suggestions for future open education policies

The interviewee **suggested** that the EU should promote excellence in teaching and learning, embedding its value in the policies they promote. Also the EU should **aim to promote professional development** in open education, based on consultation with teachers. It was further **advised** that a policy such as the National Forum for the Enhancement of Teaching and Learning should not be positioned within an institution (Ministry or HEIs) but instead be independent, as in the case of Ireland.

Finally, the interviewee noted that policymakers in open education should always remember that if a policy is to be an agent of change, the engaged stakeholders will inevitably feel a certain degree of discomfort and **must be guided** through the process of embracing the proposed innovations.

3.15 Italy (IT)

Open Education in the country²²⁴

In terms of higher education policy, “openness” is not mentioned specifically in the latest Italian HE reform, but some developments must be mentioned. First, the Working Group on Open Access created within the CRUI (Italian Conference of Rectors) a sub-group on OER, which ran an analysis of the use of OER in Italian universities, and a sub-group on MOOCs that produced some guidelines²²⁵. Second, the Ministry of University and Research has recently provided support for the Italian MOOCs platform called EduOpen²²⁶, launched in 2016.

Several OER-related initiatives must be mentioned in the school sector, especially at the regional level. Two examples are the project from the Lombardy administrative region – *Progetto Scuole Lombardia Digitale*²²⁷ – working to develop the ICT skills of school teachers and their use of OER, funded and managed from the Regional School office; and the project *A scuola di Open Coesione*²²⁸. Another interesting initiative currently underway is the project *Risorse per docenti dai progetti nazionali*²²⁹, a collection of OER for the lifelong learning and training of teachers, unfortunately limited to languages and literature. It is a sub-action for the professional development of teachers and promoted by the National Operational Programme 2007-2013.

In terms of Open Access, a 2013 law²³⁰ envisages that public institutions responsible for the provision of funding for scientific research shall take the necessary measures to promote open access to publicly funded research data in at least 50% of cases, subject to certain conditions. The OpenDOAR portal²³¹ lists 110 Open access repositories for Italy.

Openness is present in the recent national school reform, called La Buona Scuola²³² (Law 107/2015), under the **Piano Nazionale Scuola Digitale** (National Digital School Plan), which has been selected for interview.

²²⁴ Italy has been intensively studied in respect of OER and open education in the last few years by EU projects. There was a POERUP country report²²⁴ in 2013, with a tabular supplement²²⁴ in summer 2014, which embedded OER, MOOC and related open education activities in the context of ICT for education. A narrative update²²⁴ to this material was prepared in 2015 for the Open Education Working Group. In the D-TRANSFORM study²²⁴ *Business Models for Opening Up Education* which analysed six Member States, Italy was one of the countries covered, with information on distance learning and MOOCs – and fees.

²²⁵ https://www.crui.it/images/allegati/pubblicazioni/2015/mooc_2015.pdf

²²⁶ <http://eduopen.org>

²²⁷ <http://www.istruzione.lombardia.gov.it/argomenti/scuola-lombardia-digitale>

²²⁸ <http://www.ascuoladiopencoessione.it>

²²⁹ http://risorsedocentipon.indire.it/home_piattaforma

²³⁰ <http://www.gazzettaufficiale.it/eli/id/2013/10/08/13G00158/sg>

²³¹ <http://opendoar.org/find.php?p=2&step=20&cID=106&format=summary&sort=r.rName>

²³² https://labuonascuola.gov.it/index_en

Policy/initiative overview	
Policy title	Piano Nazionale Scuola Digitale National Digital School Plan
Policy URL	http://www.istruzione.it/scuola_digitale/allegati/2016/pnsd_en.pdf
Description	The Italian National Plan for Digital Education (Piano Nazionale Scuola Digitale – PNSD) is a policy launched by the Ministry of Education, University and Research for setting up a comprehensive innovation strategy across Italy’s school system and bringing it into the digital age. It is one of the pillars of <i>La Buona Scuola</i> school reform (Law 107/2015). It is an organic plan for innovation in Italian schools, with cohesive programmes of 35 actions organised into three pillars (tools, skills, organisation) and nine areas: access, learning environments, competences, entrepreneurship, contents, staff-training and supporting measures. Within the plan, Action 23 deals specifically with the promotion of OER and with the delivery of guidelines for content production.
Institution	Ministry of Education, University and Research
Policy date	2015
Status	Current
Language	Italian (summary in English)
Jurisdiction	National
E&T sector	School education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research Transversal dimensions <input type="checkbox"/> Strategy <input type="checkbox"/> Technology <input type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewee

Donatella Solda, Executive Director, Cabinet of the Minister, Ministry of Education, University and Research

Interview results

Vision of open education in the country; role of the Ministry

A vision on open education exists within the Italian Ministry of Education, University and Research²³³ (MIUR), embedding different understandings and approaches, since MIUR is in charge of education from school to HE. Even if policies and initiatives exist in different sectors and have been launched at different times, contacts exist between different sectors within the Ministry. Open education is understood both in terms of teaching practices and in terms of learning resources: the Piano Nazionale Scuola Digitale is the first policy on ICT in schools that will make this approach practical. Openness is a transversal priority: we cannot speak about digital without speaking about openness, promoting critical citizenship and an active approach towards ICT and online knowledge.

²³³ The MIUR website is called not miur.it but <http://www.istruzione.it>

Policy design and involved stakeholders

The **National Digital School Plan** was designed in such a way to involve as many public and private stakeholders as possible, also as far as funding is foreseen. Apart from current funding from the MIUR for school education, funds from other Ministerial services as well as regional funds from the European Social Fund (for labs, school libraries and teachers training for instance) have been activated, and synergy is taking place with other ministries (in broadband for schools for example). Partnerships with private sector stakeholders are also happening through the local laboratories²³⁴ – *Laboratori Territoriali* – where a call of €80 million has been launched for coding and digital citizenship courses delivery for primary and secondary schools²³⁵ and in general whenever funding opportunities are offered to schools, their partnerships with local bodies, NGOs and private sector is highly encouraged.

Policy dimensions and areas of action

The Ministry funds OER production and supports schools that take openness into account (in terms of open data or open government for example). Areas of work include Spaces and Instruments (such as stakeholder involvement and Open Data), Competences and Content (where OER open curriculum and platforms are funded), and Training and Best Practices.

Policy implementation and impact to date

The **National Digital School Plan** was launched in October 2015. The plan is structured through pillar actions with individual action plans that can easily be monitored. Almost all actions have commenced: some are have already been completed; and others are still in process (such as the Unique Identity of teachers through the SPID national project – to provide a unique digital ID to every citizen). The policy has managed to produce a “new narrative” on ICT for education (for example by investing in low-cost and sustainable technology instead of a LIM²³⁶ costing €50,000), and has activated 8,300 *animatori digitali* (digital animators²³⁷), one per school, which is probably the most dramatic change but one that schools have embraced enthusiastically. In a nutshell, short-term results can already be observed but the long-term system results of the policies will not be visible for another 10 years or so.

Key barriers and enablers during implementation

The biggest barrier is the time needed (at least two years) to build up teachers’ competences so that they can work effectively in digital ways, coupled with the need to create effective training paths that can cope with the scale of the training demand, since there are not enough quality experts in these fields. Another barrier is the slow bureaucratic processes in the Ministry when it comes to coping with such a radical policy change.

The main enablers have been that the **National Digital School Plan** has allowed teachers to self-organise and valorise innovative approaches, and the role of private-sector actors (such as publishers through the Publishers Association²³⁸ or companies such as Google or Intel who have offered investments connected to the policy). Thanks to this, the plan has

²³⁴ http://www.istruzione.it/scuola_digitale/prog-laboratori-territoriali.shtml

²³⁵ http://www.istruzione.it/scuola_digitale/prog-laboratori-territoriali.shtml

²³⁶ LIM stands for interactive whiteboard (Lavagna Interattiva Multimediale, in Italian).

²³⁷ http://www.istruzione.it/scuola_digitale/prog-animatori-digitali.shtml

²³⁸ <http://www.aie.it/English.aspx>

been able to generate a higher demand for schools with respect to previous policy cycles, and stakeholders replied in line with this.

Relation between policy and EU-level developments

The interviewee affirmed that the policy is in line with EU priorities on open education, and inspired by the 2013 EC Communication *Opening up Education*²³⁹.

Lessons learned and suggestions for future open education policies

The interviewee concluded that the approach of following through the policy-making²⁴⁰ process is probably the secret of the success of the policy: engaging and accompanying stakeholders in the implementation phase is actually the core activity of the MIUR staff in charge of the policy; this needs a lot of support time but pays off in terms of impact and the perceived relevance of the initiative.

²³⁹ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013DC0654> – Italy is one of the few countries to mention this

²⁴⁰ See <http://www.slideshare.net/damienlanfrey1/from-open-government-to-living-policy-making-59162036>

3.16 Latvia (LV)

Open education in the country²⁴¹

There appears to be no current policy related to open education in Latvia. The Open Government Plan for Latvia 2014-16 makes no commitments with respect to education either. Until recently there was an active Lifelong Learning Policy 2007-13²⁴². However, although the development of open resources was *implied* in that document, terms such as “e-learning”, “virtual”, “OER”, “distance” and “open” were not used in the document in relevant ways. The policy documentation related to adult and lifelong education does not identify any specific targeted tasks and actions, and neither does it directly support the introduction of open education.

In contrast with the centralised activity originating from the Estonian e-University and a thriving Distance Education Network in Lithuania, in Latvia in 2000 a plan for creating The Virtual University of Latvia was supported by the Ministry of Economics but not by the Ministry of Education and Science, and was never implemented.

Despite this, some universities in Latvia have produced distance-teaching activities, and there are also several virtual schools. These are mainly the result of the Phare Multi-country Programme for Distance Education (1994-1999), which aimed to introduce distance education in 11 Central and Eastern European countries. For Latvia²⁴³ this established three distance-education centres at the country’s universities, trained over 100 academic staff members, developed several distance education courses, and started the introduction of virtual learning platforms at the universities. This has had long-term beneficial consequences.

In 2012 the e-learning platform ORTUS run by Riga Technical University was evaluated by EADTU experts and received the E-xcellence Quality Label²⁴⁴.

An example of a cross-border project is the Latvian-Lithuanian project²⁴⁵ *eBig3* run by the Distance Education Centre at Riga Technical University, which combines three aspects of technology-enhanced learning in complementary ways (eLearning, TV-based learning and mobile learning) to produce an effective and innovative cross-media learning delivery system that goes beyond traditional web-based learning approaches. The project received the BOLDIC Award in 2013 and the annual BOLDIC conference for 2014 was organised in Riga with the theme of open resources online.

For Open Access the OpenDOAR portal records²⁴⁶ only three repositories (for a population of 2 million with over 20 higher education institutions).

Interviewee

Ilmārs Slaidiņš, Professor and OER expert, Riga Technical University

²⁴¹ Latvia has been only minimally studied in respect of OER and open education in the last few years by EU projects. However, there was a 6-page study (2015) on policies for OER specifically, by ADOERUP (for the European Parliament).

²⁴² http://asemilhub.org/fileadmin/www.dpu.dk/asemeducationandresearchhubforlifelonglearning/nationalllstrategies/resources_3348.pdf

²⁴³ <http://files.eric.ed.gov/fulltext/ED438452.pdf> – pp. 21-23 on Latvia

²⁴⁴ <http://e-xcellencelabel.eadtu.eu/e-xcellence/qualified-institutions>

²⁴⁵ <https://ortus.rtu.lv/science/en/publications/19768-eLearning+Approach+eBig3%3A+Development,+Delivery+and+Evaluation>

²⁴⁶ <http://www.opendoar.org/find.php?cID=119&title=Latvia>

Interview results

Vision of open education in the country; role of the Ministry

It was reported that the understanding of open education among the experts at government level is rather limited, and that when open education projects are developed they are mainly initiated by teachers and their institutions, and supported by international (including EU) or public grants, since funds from the Latvian government are limited even when available. Also, it is important to consider that the use of open licenses such as Creative Commons is not yet recognised by Latvian legislation²⁴⁷.

State-of-the-art of open education

The country does not have a particular policy in this field, as there seems to be a narrow understanding of open education on the part of the government and because there are other key issues to address in relation to improving education in the country, such as teachers' demands for better salaries. However, there are organisations in the country that are promoting the use and adoption of digital technologies in education, such as the Latvian ICT association LIKTA²⁴⁸ which organises events to connect schools and teachers and supports educational portals such as MyKoob²⁴⁹. This contains educational resources developed within the state-supported project LIIS (Latvian Education Informatisation System)²⁵⁰. This project started in 1997 with the aim of introducing IT in schools and ended in 2003: in that period it developed learning resources for schools, trained teachers and introduced the ECDL standard (650 teachers tested).

Furthermore, some universities are engaged in promoting the development and exchange of teaching resources in portals such as Skolotajs²⁵¹. This portal is created and supported by the public foundation *Elektronisko mācību līdzekļu kvalitātes asociācija* (e-MLKA)²⁵². This association comprises people from IT-related companies, universities and schools.

Latvia is indeed quite active in promoting Open Access to research papers and data, also through the participation in projects such as OpenAIRE²⁵³ and FOSTER²⁵⁴. There is good cooperation among universities (University of Latvia and Riga Technical University) in organising the implementation of Open Access initiatives and several Open Access events, and in supporting the development of the Latvian Open Access Research portal²⁵⁵.

Key barriers and enablers during implementation

The three main barriers to the development of open education in the country are the lack of strategic support for the development and promotion of open education, the lack of recognition of Creative Commons licenses, and the absence of dedicated financial support in the area of OER and open education.

²⁴⁷ See the minimal entry for Creative Commons Latvia – the site openfm.lv no longer exists.

²⁴⁸ https://www.likta.lv/en/about_us/Pages/about_us.aspx

²⁴⁹ <https://www.mykoob.lv>

²⁵⁰ Summarised in English, French and German at

https://www.researchgate.net/publication/233595415_Latvian_Education_Informatization_System_LIIS

²⁵¹ <http://skolotajs.lv/Lapas/Sakums.aspx>

²⁵² <http://www.emlka.lv>

²⁵³ <https://www.openaire.eu>

²⁵⁴ <https://www.fosteropenscience.eu>

²⁵⁵ <http://www.napd.lu.lv>

Lessons learned and suggestions for future open education policies

In terms of **suggestions**, the interviewee noted that support, both financially and at a promotional level, would be needed to ensure that the government and policymakers are aware of open education.

He also **recommended** that the EU should provide funds to initiate and open discussions and promote exploratory projects in countries where open education has not yet been considered; and also that it should provide action plans – not just suggestions and policies but guidelines and exchanges of expertise entailing clear goals and targets.

3.17 Lithuania (LT)

Open education in the country

A comprehensive report²⁵⁶, *Open Educational Resources in Lithuania*, was written in 2011 for the UNESCO Institute for Information Technologies in Education (IITE), and further developments have taken place since then. The author of that report provided an update²⁵⁷ in 2015 for the Open Education Working Group, in the context of open education.

The OpenDOAR portal lists 11 Open access repositories for Lithuania,²⁵⁸ a high number in relation to the country's total population.

Distance learning is quite well known and there is an active national distance-learning association, LieDM.²⁵⁹ Despite this, the standard *Education and Training Monitor 2015* report²⁶⁰ for Lithuania makes no mention of OER, open or distance learning.

More usefully, the *Monitor* reports on higher education reform (p.6):

In a 2014 study²⁶¹ (MOSTA²⁶² 2014), the Lithuanian Government and stakeholders identified the main challenges on the quality of higher education and the relevance of tertiary students' skills to the labour market. In response, in January 2015 the government presented a proposal to amend the law on higher education and research (Lithuanian Government 2015). The proposal includes the following main measures:

- i) performance contracts will be brought in between higher education institutions and the State governing the activities of higher education institutions and student admission requirements for a three-year period;
- ii) state-financed student places will be planned for each field of study, based on the skills needs identified by the government;
- iii) centrally determined minimum admission requirements will be set. These will apply both to public (both state-financed and self-financed higher education places) and to private institutions (until now universities could set their own admission requirements);
- iv) the total duration of bachelor's and master's programmes can be reduced by one year;
- v) career guidance will become obligatory for institutions;
- vi) higher education institutions will be managed by a Senate composed of external members.

There is nothing to criticise in these reforms and they are in line with developments in some other Member States; yet there is no explicit mention of ICT, even though target (iv) might be facilitated by a blended learning approach. However, the reforms go on to observe that:

In response to increased interest among students for professionally oriented programmes, pathways will be opened up from these programmes towards traditional master's programmes. Lithuania also plans to make higher education programmes more relevant to the labour market by promoting cooperation on study content development with social partners and by helping employers to offer more work-based learning opportunities to students in tertiary education.

²⁵⁶ <http://unesdoc.unesco.org/images/0021/002144/214493e.pdf>

²⁵⁷ <http://education.okfn.org/open-education-lithuania/>

²⁵⁸ <http://www.opendoar.org/find.php?cID=125&title=Lithuania>

²⁵⁹ <http://vma.liedm.lt>

²⁶⁰ http://ec.europa.eu/dgs/education_culture/repository/education/tools/docs/2015/monitor2015-lithuania_en.pdf

²⁶¹ *Studijų kokybė Lietuvoje: suinteresuotų šalių požiūris* (Quality of Studies in Lithuania: Stakeholders Opinion),

http://www.mosta.lt/images/leidiniai/Studiju_kokybe_suinteresuotuju_saliu_poziuris_Santrauka.pdf

²⁶² MOSTA (<http://www.mosta.lt/en/>) is an interesting agency – see their reports in English at

<http://www.mosta.lt/en/reports-and-publications>, especially

http://www.mosta.lt/images/leidiniai/Effectiveness_of_higher_education_Policy_brief.pdf

These aims are traditionally facilitated by ICT deployment.

There are also plans to modernise vocational education and training and to promote adult learning, but again with no strong ICT aspect.

In the end it was decided to choose a more ICT-specific action plan, the so-called Activity Plan for ICT Implementation in General and Vocational Education for 2014–2016, which has the merit of not only extensively mentioning ICT but also open content and MOOCs.

Policy/initiative overview	
Policy title	Activity Plan for ICT Implementation in General and Vocational Education for 2014–2016
Policy URL	https://www.e-tar.lt/portal/lt/legalAct/e5ee5450e0de11e388bee944977d73d2
Description of the policy	<p>In 2014 the Ministry approved <i>ICT implementation in general and vocational education activities plan for 2014 – 2016</i>, which aims to ensure that after a few years:</p> <ul style="list-style-type: none"> • Teachers actively participate in virtual forums, exchange experience, and participate in distance learning (e.g. MOOC) • Students can learn in virtual environments, to self-assess their learning outcomes. Assessment information is available to teachers and principals to make decisions • Open content and other resources are accessible by schools' safe wireless networks. Students can use their own mobile devices for learning both at school and at home (BYOD) • The updated IT subject curriculum is attractive to students, and it is offered both in a formal and informal way. Students have already been acquainted with IT possibilities at a lower level. <p>Future activities in the Activity Plan are related to open digital content creation, development of already created content; adaptation to students with special needs; and development of methodological material and teacher-training.</p>
Policy institution	Ministry of Education
Policy date	2014
Policy status	Current
Language	Lithuanian
Policy jurisdiction	National
E&T sectors	School education, VET
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input checked="" type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewees

- Giedrius Vaidelis, Director of Education Development Centre.
- Vaino Brazdeikis, Director of Centre of Information Technologies in Education under the Ministry of Education and Science.

Interview results

Vision of open education in the country; role of the Ministry

At governmental level, open education is quite well understood – mostly the concept of Open Educational Resources. However, this understanding seems to decrease at school level. The role of the Ministry is to support the implementation of ICT for teaching and learning, by providing networks and equipment, but also to develop digital skills in the teaching body. By promoting a better digital infrastructure, therefore, the Ministry can promote innovation in teaching and learning. To develop new skills for educators, training is needed, so the use of OER to support and motivate the teachers is key – this is widely understood by the Ministry.

Policy design and stakeholders involved

The policy design aims to reduce social exclusion and related problems by improving education and by developing new skills in teachers and students, aspiring also to develop citizenship skills. The main stakeholders are the Ministry and its agencies, but also the schools and the municipalities, as in fact the schools depend on the municipalities.

Policy dimensions and areas of action

The main dimensions of the **Activity Plan for ICT Implementation in General and Vocational Education for 2014–2016** are the implementation and/or improvement of ICT in schools, including the provision of Internet/Wi-Fi, computers, interactive boards and other devices that can be used for teaching and learning. Another dimension is the provision of digital content for teacher-training and for sharing of teaching and learning resources, and also the development of a centralised assessment system.

Policy implementation and impact to date

So far there have been a large number of schools equipped with digital technologies and a considerable number of teachers have been trained. A significant amount of resources have also been developed to train teachers.

Key barriers and enablers during implementation

Some of the barriers encountered during the implementation are related to a lack of motivation on the part of some municipalities when it comes to supporting the implementation of new technologies and/or training the teachers.

Another barrier encountered is the age of the teachers in the country: on average they are much older than in other European countries and also only a minority of them understand English, so in many cases learning new things in English is problematic. Also there is reluctance on the part of some school principals to adopt new technologies and innovative teaching methods, as they often prefer more traditional approaches.

Enablers include the provision of training for school principals which would lead them to understand the paradigm shift in educational processes, and support them in gradually overcoming the initial reluctance of the teachers. Also, the showcasing of data demonstrating progress in learning through the adoption of new technologies has been a source of motivation for some educators and principals: it allows them to see results, thus leading them to support and promote training for teachers aimed at enhancing educational results at school level.

Relation between policy and EU-level developments

The connection between this policy and the EU-level developments is that they share the aim of widening participation in education and reducing social inequality.

Lessons learned and suggestions for future open education policies

One of the lessons mentioned by the interviewees is the importance of involving school principals, as they can be both an obstacle and an enabler in the implementation of policies and agendas.

For future OE policies, the interviewees from Lithuania **recommended** that the EU could provide a library of Open Source Software that could be translated for sharing and creating content or for innovation, because for countries with lesser-used languages (Lithuanian is spoken by fewer than 3 million people) it is expensive to purchase software because its translation is costly, or indeed there is no translation available.

They also mentioned that **the EU should facilitate teachers' mobility**, offer more Erasmus+ projects to enhance teachers' capabilities, and provide a platform for the sharing of good practices that can facilitate and motivate teachers' training.

3.18 Luxembourg (LU)

Open education in the country

Despite its relatively small population Luxembourg has quite a developed higher education sector, comprising the University of Luxembourg²⁶³, the Open University of Luxembourg (the result of cooperation between the Luxembourg Lifelong Learning Center, the Luxembourg Chamber of Employees, and the Open University in the UK, with a rich distance learning offer), the Lunex University, the Sacred Heart University Luxembourg, and the Miami University — John E. Dolibois European Center (MUDEC).

The OpenDOAR portal lists²⁶⁴ four Open access repositories for Luxembourg – a relatively high number explained by the fact that Luxembourg hosts a number of research centres and foundations.

Open Education and OER are present within the Digital(4)Education strategy²⁶⁵, which falls under the Digital Lëtzebuerg (Digital Luxembourg) overall policy²⁶⁶. This plan was launched in October 2014, aiming to “strengthen and consolidate in the long term the country’s position in the ICT field”, and transform the country into a digital nation. The strategy is composed of five pillars: Digital Peer, Digital Citizen, Digital Entrepreneur, Digital Worker, and Digital Learner. Each one of these has some activities aiming at opening up education. This strategy is being deployed – with special attention paid to Open Educational resources and Practices – in the school sector through nationwide initiatives such as *MathemaTIC*²⁶⁷ and *one2one*²⁶⁸, briefly presented below.

In school education, through the portal <https://portal.education.lu>, teachers and students can access a range of collaborative applications and resources, including openly licensed ones.

Interviewee

Serge Linckels INCKELS, Professor, Ministère de l’Éducation nationale, de l’Enfance et de la Jeunesse (MENJE), Service de Coordination de la Recherche et de l’Innovation pédagogiques et technologiques (SCRIPT).

Interview results

Vision of open education in the country; role of the Ministry

In the school sector, even if there is not a specific policy focusing only on open education, a lot of initiatives are underway. Open Education is transversally embedded within the Digital(4)Education strategy, a national initiative run by the Ministry of Education and aiming to transform schools into digital schools partly through the use of Open Resources and collaborative knowledge development. Given this “transversal presence” of open education within the major national initiative on school innovation through ICT, we can say

²⁶³ <http://www.uni.lu>

²⁶⁴ <http://www.opendoar.org/find.php?cID=126&title=Luxembourg>

²⁶⁵ <http://portal.education.lu/digital4education/>

²⁶⁶ <http://www.luxembourg.public.lu/en/investir/secteurs-cles/economie-numerique/digital-letzebuerg/index.html>

²⁶⁷ <https://www.mathematic.lu/>

²⁶⁸ www.edusphere.lu/

that the Ministry of Education has a clear vision on ICT for learning and media literacy that embeds a vision of open education. This is further witnessed by the fact that the Ministry of Education has very recently created a running prototype of an OER metasearch engine in collaboration with the University of Luxembourg.

Open Education state-of-the-art

Under the Digital(4)Education initiative, a number of actions involving the opening up of education have been implemented.

MathemaTIC is a very large project for ICT development in schools, fully open to all teachers and students. Based on a personalised e-learning platform, it targets students in Grades 3 & 4 (Cycle 3) and Grades 7 & 8. The interactive content is available in different languages. Multilingualism is indeed important in Luxembourg, since students would need materials in the three official languages of the country; for example an initiative was recently launched for students to learn how to write in Luxembourgish. During the 2015-2016 school year MathemaTIC was piloted in 41 schools through interactive learning and assessment modules aligned to the mathematical competences outlined in the national curriculum document. The project is run in collaboration with the French Ministry of Education, the University of Luxembourg, the Luxembourg Centre for Educational Testing (LUCET), the Luxembourg Institute of Social-Economic Research (LISER), and the Centre de gestion informatique de l'éducation (CGIE).

one2zone is one of the newest initiatives of the Ministry of Education. It aims to deploy iPads into schools in a 1:1 model and to promote digital and interactive learning resources. The project is based on three pillars: the technical aspects, the training of the teachers, and the delivery of pedagogical content and its learning scenarios.

Key barriers and enablers during implementation

The main challenge in order to fully open up education in the country, especially in terms of learning materials, has to do with language. Most of existing Open Educational Resources are in fact in English, but most of the subjects are taught either in French or German. What students need, therefore, is content in those languages.

A centralised authentication system for every teacher and student with single sign-on (SSO) is already in place. Therefore technology is not a critical issue: in fact it would be quite easy to open up the centralised credentialing and resources system to the rest of the world, even of this might create problems with students from other countries wanting to access the country's school system. A solution such as EduID²⁶⁹ (developed in Sweden) would help.

Teachers' competences would not be a barrier either, but rather an enabler. In the last two years, in fact, media literacy, classes on Creative Commons and OER have been included in basic teacher-training and have been offered on many occasions – for example the annual teacher-training day "journée eduSphere", or on a more regularly basis as in-service training. Furthermore, teachers would generally be willing to open up, and many do share content openly already via the national cloud solution. This was the result of a number of collaboration activities organised by the Ministry, such as Exchange Days when teachers meet and exchange digital material and approaches.

²⁶⁹ <https://www.eduid.se/>

Lessons learned and suggestions for future open education policies

The main recommendation is to **start with teachers**. From the point of view of the interviewee, awareness-raising among teachers is the most important thing: teachers must be informed and convinced that using and improving existing content is the way to go. The Ministry has devoted a great deal of attention to teacher-training, with lots of exchange events, visits in the schools, and discussions at all levels.

Another recommendation, specifically for small countries, is to take advantage of their ability to put in place a single centralised system that includes an OER repository (or meta-repository) and a student identification system. Having such a centralised system would make things easier for teachers and students and would increase their motivation to participate, collaborate and share.

3.19 Malta (MT)

Open education in the country

In Malta, although there is a thorough understanding of the wide scope of open education, the main policy target at the moment concerns OER. Unlike many other Member States, open education in the form of MOOCs and OER are positioned as important goals in key policy documents. Malta also has a pilot initiative on blockchain in education. This initiative maps onto the recognition dimension of open education. Malta's case study on blockchain policy, focusing on citizens' ownership and the portability of their own educational records, can be found in the report *Blockchain in Education*²⁷⁰ (JRC, 2017), p.74.

Policy/initiative overview	
Policy title	National Lifelong Learning Strategy 2014-2020
Policy URL	https://education.gov.mt/en/Documents/Malta%20National%20Lifelong%20Learning%20Strategy%202020.pdf
Description of the policy	The National Lifelong Learning Strategy 2020 ²⁷¹ is the first document to mention open education in Malta. The document recommends "embracing the emergence of Open Education Resources as an opportunity for Connected Learning".
Policy institution	Ministry of Education and Employment
Policy date	2014
Policy status	Current
Language	English
Policy jurisdiction	National
E&T sectors	Post-compulsory education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input checked="" type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewees

- Alex Grech, Senior Advisor to the Ministry for Education and Employment.
- Emmanuel Zammit, Ministry of Education and Employment.
- Jeffrey Zammit, Ministry of Education and Employment.

²⁷⁰ <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/blockchain-education>

²⁷¹ <https://education.gov.mt/en/Documents/Malta%20National%20Lifelong%20Learning%20Strategy%202020.pdf>

Interview results

Vision of open education in the country; role of the Ministry

The role of the Ministry is that of developing policies and strategies and implementing programmes that can foster a more equitable uptake of open educational resources by Maltese citizens. It is an activist approach which at the moment is very much related to the uptake of OER.

The Ministry sees itself as the primary policymaker, with responsibility for increasing Maltese citizens' understanding of the value of OER. The Ministry is both a policymaker and a promoter of OER, although OER uptake on a large scale may not be achieved in the near future.

Policy design and involved stakeholders

The **National Lifelong Learning Strategy 2020**²⁷² embraces open education and open educational resources so as to promote connected learning. It was published at the beginning of 2015, being launched as an official policy. It was the first time the Maltese government had addressed open education and the need to do something about OER. The document set out the strategy and contained a number of recommendations for raising awareness of OER.

Strategy 5, for example, is to "Embrace the emergence of Open Educational Resources as an opportunity for Connected Learning", emphasising that it is important to observe:

[...] The European Commission's call for EU-level cooperation on OER as the platform from which to push reforms towards the adoption of open learning environments within adult education. This will involve the development of a sound policy framework for the introduction of innovative learning and teaching practices through technologies in schools, universities, VET and adult learning institutions. There is a significant opportunity to re-think the role of digital technologies within adult learning institutions. (pg.32)

The other document is a green paper on digital literacies²⁷³ which argues in favour of OER uptake. It was published in late 2015 and encourages people to be digital literate, starting from primary school. These documents are currently part of national priorities. It is planned that Malta will publish a national open education policy in 2018, followed by a digital literacy strategy.

Apart from the two documents mentioned above, Malta has also published a report to the Ministry of Education by the Working Group on Post-Secondary Education and the Future of Education²⁷⁴. This report presents a series of recommendations, with number 13 focusing on OER:

Use Open Education Resources and MOOCs to redesign and deliver accessible, competency-based curriculum content [p.157]

These documents and policies form the basis of Malta's OER and open education strategy until a specific policy is published in 2018. To date the strategy is about informing key stakeholders such as policymakers and teachers about the opportunities of open education. Malta has been providing OER for students and the general public. The underlying rationale is how to connect "knowledge that is out there in the world" with formal knowledge. The Maltese education system, according to the Ministry, aims to provide equitable education

²⁷²<https://education.gov.mt/en/Documents/Malta%20National%20Lifelong%20Learning%20Strategy%202020.pdf>

²⁷³<https://education.gov.mt/en/elearning/Documents/Green%20Paper%20Digital%20Literacy%20v6.pdf>

²⁷⁴ <https://education.gov.mt/en/Documents/Post-Secondary%20Education.pdf>

with no one left behind: there are several initiatives aimed at breaking down “one-size-fits-all” regimes.

To this end the Ministry has launched a “tablet” initiative and has been providing training to teachers and students. Every learner in both public and private schools receives a tablet computer.

In February 2017 the Ministry set up the Commonwealth Centre for Connected Learning²⁷⁵. This was established as an arms-length foundation in collaboration with the Commonwealth of Learning²⁷⁶ in Vancouver, providing Malta with access to an international network of experts and practitioners in OER. The centre will be working in conjunction with key stakeholders in the Ministry and other Maltese institutions in order to facilitate policy initiatives and pilot projects.

Policy dimensions and areas of action

These policies cover the following dimensions of the OpenEdu Framework: access, content, collaboration, recognition, strategy and technology.

Policy implementation and impact to date

The bottleneck in policy implementation is the lack of human resources within the Ministry. To overcome this, Malta often reaches out for external support in order to move forward with its strategies. Since these strategies primarily concern “mindset change”, the process has been more about raising awareness on the importance of OER and discussing ideas for pilots with stakeholders to promote buy-in. Apart from the offer of OER and the tablet initiative, the interviewees explain that the strategies in these documents have not yet been fully implemented.

Key barriers and enablers during implementation

The lack of human resources within the Ministry is a challenge to be overcome, as previously mentioned.

Relation between policy and EU-level developments

It becomes evident when reading these documents that Malta is very well informed on current EU-level developments and aspirations. The Communication on open education and the OpenEdu framework are both cited in these documents: they provide an important rationale for the policies and additional input as to why Malta needs to move forward with Open Education.

Lessons learned and suggestions for future open education policies

Malta plans to implement policies on digital literacy and open education by the end of 2017. The government understands that *mindset change* is very important for the practical realisation of these policies. Through an approach equally involving all individuals in the initiatives promoted by the Ministry, Malta is striving towards an education system in which digital competence and open education are both core values.

²⁷⁵ www.connectedlearning.edu.mt

²⁷⁶ www.col.org.

3.20 Netherlands (NL)

Open education in the country

In the last few years the Netherlands has been studied with respect to OER and open education through EU-funded and other projects. In terms of public reports, in 2014 there was a substantial POERUP country report on OER,²⁷⁷ augmented by a policy options supplement²⁷⁸. In 2015 there was only a brief study by ADOERUP (for the European Parliament)²⁷⁹.

The HE policy for the Netherlands makes no specific mention of e-learning but appears to contain no inhibitors to its development. The national quality agency, NVAO²⁸⁰, is one of the few in Europe (along with those of the UK and Ireland) that is aware of e-learning and considers it to some extent in its deliberations. Its *Self-Assessment Report*²⁸¹ for the 2017 ENQA Review mentions it specifically:

Students demand more flexibility in the organisation of education, especially in life-long learning. NVAO can use its expertise to assist maintaining standards of quality in these developments. It has published papers on quality assurance in online education and MOOCs²⁸². (p. 24)

3. *Input in discussions on quality assurance and accreditation in the Bologna process* NVAO contributed to the development of the ESG, to discussions and meetings on learning outcomes, qualifications frameworks, joint programmes, quality culture, and MOOCs. (p. 41)

Each year NVAO organises in cooperation with ECA a topical international seminar with participation of Dutch and Flemish HEIs, on themes related to the Bologna agenda (e.g. mutual recognition of qualifications; online learning; employability; joint programmes). (p. 41)

ESG 1.6: In the case of assessments of long-distance education, a specialist with expertise in online education is mandatory in the expert panel. (p. 56)

However, "open education" (or any similar expression) does not appear.

In 2009 the Ministry of Education, Culture and Science initiated a programme to mainstream OER in all educational sectors by creating the Wikiwijs portal²⁸³ for finding, sharing and reworking OER. Government support for this comprehensive programme was withdrawn at the end of 2013 and Wikwijs was refocused. The current government focus is on MOOCs, but progress seems slow. MOOC activity is quite widespread, with Coursera having four members, FutureLearn three, iversity one, and the Open Education Consortium four.

A 2012 SURF report²⁸⁴ noted (p.4) that:

A small, active group of universities of applied sciences can be distinguished that are interested in OER, that are developing initiatives, and that have plans for taking matters further, but most of the respondents at these institutions say that in the present period of budget cuts and discussions of quality they do not have the scope for developing a vision or policy regarding OER.

²⁷⁷ <http://poerup.referata.com/wiki/Netherlands>

²⁷⁸ http://poerup.referata.com/wiki/File:POERUP_D4.3.3_Options_brief_pack_Netherlands.pdf

²⁷⁹ [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU\(2015\)563397_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU(2015)563397_EN.pdf), pp.129-130

²⁸⁰ https://www.nvao.com/system/files/pdf/ENQA%20Review%202017%20NVAO%20Self-Assessment%20Report_0.pdf

²⁸¹ https://www.nvao.com/system/files/pdf/ENQA%20Review%202017%20NVAO%20Self-Assessment%20Report_0.pdf – dated October 2016

²⁸² See for example *MOOCs and online HE: A survey* –

http://ecahe.eu/assets/uploads/2014/08/NVAO_MOOCs_and_online_HE_A_survey_June_2014.pdf

²⁸³ <https://www.wikiwijsleermiddelenplein.nl/startpagina/vmo>

²⁸⁴ <https://www.surf.nl/binaries/content/assets/surf/en/2012/article+OER+in+the+Dutch+Educational+Landscape.pdf>

Despite this, SURF²⁸⁵ publishes an insightful annual report on open and online education, making the best of the largely grassroots activity.

The OpenDOAR portal reports²⁸⁶ that there are 34 Open access repositories in the Netherlands.

In 2015 the Dutch Ministry of Education, Culture and Science formulated an ambitious programme for open and online education in its Strategic Agenda HO2025, *de waarde(n) van weten* (Higher Education 2025, the value of knowing), with the aspiration (pp.29-30) that:

all teaching staff at Dutch institutes of higher education make their educational resources openly available, i.e. open access higher education, and that, as a result, the Netherlands plays a pioneering role in the world.

In the spring of 2016 a Ministry taskforce investigated what measures should be taken to realise the ambitions of the policy. After interviewing many stakeholders they identified three categories of hurdles that hinder the widespread adoption of OER and other forms of open online education (although the latter was narrowed down to MOOCs): culture, infrastructure and professionalisation. Currently the research universities and universities of applied science are working together with SURF and the Ministry to start a multi-year programme to take action in their ambition for widespread acceptance of open education.

Besides that, in the summer of 2017 the Ministry launched an enhanced funding programme for open and online education. In addition, two model projects started forming a learning community in which users create and continuously enhance their Open Educational Resources.

Policy/initiative overview	
Policy title	HO2025, de waarde(n) van weten Higher Education 2025, The value of knowing
Policy URL	https://www.government.nl/documents/reports/2015/07/01/the-value-of-knowledge
Description	The policy presents a number of objectives for for the modernisation of HE by 2025, and the actions the Netherlands intends to put in place to achieve this. This strategic agenda therefore considers ways to increase quality in a manner that is tangible for both students and university staff, and openness is at the core of the strategy. The ambition for 2025 is that all teaching staff at Dutch institutes of higher education will make their educational resources openly available, i.e. open access higher education, and that as a result the Netherlands will play a pioneering role in the world. The plans also attach importance to the Dutch institutes' recognition of each other's MOOCs and Open Educational Resources.
Institution	Ministry of Education, Culture and Science
Policy date	2015
Status	Current
Language	English
Jurisdiction	National
E&T sector	Higher education

²⁸⁵ <https://www.surf.nl>

²⁸⁶ <http://www.opendoar.org/find.php?cID=151&title=Netherlands>

Policy/initiative overview	
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> <u>Access</u> <input checked="" type="checkbox"/> <u>Content</u> <input checked="" type="checkbox"/> <u>Pedagogy</u> <input checked="" type="checkbox"/> <u>Recognition</u> <input checked="" type="checkbox"/> <u>Collaboration</u> <input checked="" type="checkbox"/> <u>Research</u> <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> <u>Strategy</u> <input type="checkbox"/> Technology <input checked="" type="checkbox"/> <u>Quality</u> <input checked="" type="checkbox"/> <u>Leadership</u>

Interviewee

Ruud Nauts, Policy officer, Ministry of Education, Culture and Science

Interview results

Vision of open education in the country; role of the Ministry

The Dutch Ministry of Education, Culture and Science²⁸⁷ sees open education as an important asset, putting it at the same level as Open Access in the higher education context. Open education is perceived as an element that can foster quality and reduce the cost of education, thereby widening participation in higher education and ultimately supporting the development of an open culture in teaching and learning.

Policy design and involved stakeholders

The policy **Higher Education 2025, The value of knowing** was launched because the Dutch government believes open and online education is a strategy capable of enhancing and broadening access to education by promoting the sharing of teaching resources and practices. The main stakeholders involved in the preparation of the policy were the Ministry of Education itself, the Dutch universities and the universities of applied sciences, and SURF, the agency that supports open education in the Netherlands. SURF is particularly important since among other things it helps the government allocate ministerial funds to projects and initiatives by selecting them through open competitions, which cover a wide range of activities from MOOCs to OER repositories.

Policy dimensions and areas of action

The core dimensions of the policy **Higher Education 2025, The value of knowing** can be understood as enabling the sharing of educational content, with the aim that by 2025 resources will be openly shared across all schools and HEIs. To achieve this goal the policy is supporting initiatives from Dutch HE coalitions at the national and international level. Also the Ministry intends to include students and teachers in the discussions aimed at shifting the teaching and learning culture towards openness and supporting the development of an open culture, providing technical support to staff and students to share and find OERs via institutional infrastructures.

²⁸⁷ <https://www.government.nl/ministries/ministry-of-education-culture-and-science>

Policy implementation and impact to date

The initial objectives have been achieved to a great extent, as higher education institutions are thinking at a strategic level what open education means to them, moving from the old approach of technical developments towards a strategic one. An interesting example is the project developed by TU Delft in the form of a coalition with European universities to develop MOOCs, which can be taken by students from the universities and upon completion of the course the students are given credits in the same way they are credited for face-to-face courses. Another significant project is the coalition among Dutch technical universities²⁸⁸, led by TU Delft, which promotes the sharing of OER, supporting the idea that open education is embedded in Open Science and therefore promoting the scientific and technical development of the country.

Key barriers and enablers during implementation

The main barriers encountered are related to the goal of moving teaching and learning towards an open culture. First, there is the resistance of educators when it comes to adapting their practices and receiving the training that will allow them to innovate in the classroom; and second the fact that, despite the efforts to finance projects in open education, the overall level of institutional support and recognition for educators in implementing these projects has been lower than expected. As for the enablers, these can be understood from different perspectives. First, it has been important to ensure the political promotion of the open education agenda within the country, through endorsement by the Minister and other politicians in their public appearances. Also, it is key to promote and support open education by financing initiatives at higher education and school level; and finally it is crucial to address new and innovative approaches to open education.

Relation between policy and EU-level developments

The interviewee affirmed that the frame of this policy is in line with the European principles for promoting the development of an open education culture across Member States. Because of its success, this policy can serve as a model to be adapted for the development of further policies and agendas on open education by other European countries.

Lessons learned and suggestions for future open education policies

The interviewee felt that the success of the policy is connected to the extensive support provided to educators in embracing a change of culture and practice, but this support for cultural change needs to be provided via actions that endorse and acknowledge good practices, allocating funding for projects and consistently providing training for educators rather than enforcing this cultural change via mandates.

The **first recommendation** from the interviewee with regard to further developments in open education in Europe is that a space should be created where policymakers can share good practices across countries and institutions.

A **further recommendation**, connected to the fact that a high number of MOOCs have been produced by European HEIs as part of their open education remit, is that after ensuring the quality of these online courses, students can take them as part of their elective modules, gaining credits upon completion of these courses as if they were part of a sort of e-Erasmus, thereby ensuring the courses are used to their full potential.

²⁸⁸ <http://www.open.tudelft.nl/en/education>

3.21 Poland (PL)

Open education in the country²⁸⁹

In the case of Poland, probably the OER-related project best known outside the country is the *Digital School Programme*, announced²⁹⁰ in April 2012. This is the largest government-sponsored open education programme in Polish history, and has created a full set of educational materials for grades 4-6 under a CC-BY licence.

The Digital School programme with the *Digital Textbooks* component was initially drafted and proposed to the Prime Minister's Office by the Modern Poland Foundation, the Centre for Civic Education, and Creative Commons Poland (with the cooperation of the Prime Minister's Office). All those organisations are members of the Coalition for Open Education²⁹¹ (KOED), a network of NGOs and educational institutions promoting Open Education in Poland.

One of the most ambitious features was the creation of a national repository of training materials. Teachers in all of the test schools will have access to this nationwide database. The first draft was accepted by the Ministry of Education, but at a later stage of the negotiations the free licensing requirement was left out. Both the Coalition for Open Education and the Modern Poland Foundation took part in the public consultation process; their comments in support of free licensing were agreed upon and accepted. As a result of the adopted regulation, schools will be computerised and all educational materials for grades 4-6 will have a Creative Commons license (CC-BY-3.0) to allow for easy sharing and attribution. By accepting the regulation and now also accepting the materials, Polish schools will soon be fully adopting the open education model. The textbooks are to be available under the Creative Commons Attribution license, in an open format (with the full specification being freely available both technically and legally), and for web access as required by the W3C Web Content Accessibility Guidelines. So far it appears that the only non-accessible material may be some of the images, which contain embedded text and might therefore prove inaccessible for blind students.

There is also a new national initiative supported by the Ministry of Science and Higher Education, a Polish MOOC platform. The goal of this platform is to increase e-learning reach among young people, enhance teaching methods and support the professional development of academic staff, as well as to offer courses on various subjects. Since this project is presently only in the initial development stages²⁹² it will not be the policy focus, although it has the potential to become a major initiative in Poland once the platform is launched (in October 2018, according to the plans).

The new regional fund policy OP KED – Operational Programme Knowledge Education Development, was the policy chosen as the basis of the interview.

²⁸⁹ Poland, like Germany, the Netherlands and the UK (as well as France and Spain) has undergone intensive analysis by POERUP. There is a country report²⁸⁹ and a policy options paper²⁸⁹ written by two Polish experts commissioned by the well-known NGO *Centrum Cyfrowe Projekt*²⁸⁹.

²⁹⁰ <http://creativecommons.pl/2012/04/digital-school-program-with-open-textbooks-approved-by-polish-government/>

²⁹¹ <http://koed.org.pl/en/>

²⁹² December 2017

Policy/initiative overview	
Policy title	OP KED – Operational Programme for Knowledge Education Development
Policy URL	https://www.power.gov.pl/media/10256/OPKED_zatwierdzony_przez_KE_en_calosc.docx
Description of the policy	<p>In 2014 the Polish Ministry of Development introduced a broad open licensing requirement for all educational resources funded from the European Structural Fund²⁹³, with about €10 billion to be spent in Poland by 2020. This will be achieved through a large regional fund policy called Operational Programme Knowledge Education Development (OP KED) and through 16 regional operational programmes, which all have a strong educational focus. The interviewee (see below) indicated that the goals <i>with respect to open education</i> are:</p> <ul style="list-style-type: none"> ensuring <i>open educational resources</i> are available by preparing e-textbooks and developing didactic e-materials accompanying the existing e-textbooks creating sets of <i>education tools</i> for each educational stage, as well as <i>revision of learning content</i> in terms of students' key competences necessary to operate on the labour market reviewing and updating of core curricula and other content of VET (<i>in cooperation with social partners</i>), in order to take into account employers' expectations regarding knowledge, skills and competences strengthening <i>cooperation between schools and entrepreneurs, universities and social partners</i> in order to mobilise business-education partnerships inclusion of qualifications into an <i>integrated qualifications system</i> increasing the <i>competences of persons participating in higher education</i> to match the needs of the economy, labour market and society transnational mobility programmes pursuant to the rules specified for the <i>Erasmus+</i> programme
Policy institution	Ministry of Development
Policy date	2014
Policy status	Current
Language	Polish
Policy jurisdiction	National
E&T sectors	School education, Higher education, VET, Adult learning

Policy/initiative overview	
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Strategy <input type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership

Interviewees

- Beata Pojawa, Department of Education and Health, Department of European Structural Fund, Ministry of Development.
- Alek Tarkowski, director, Centrum Cyfrowe

²⁹³ http://ec.europa.eu/regional_policy/en/funding/

Interview results

Vision of open education in the country; role of the Ministry

Open education is an important part of education policy in Poland. It aims to increase access to the learning offered through formal and informal education system for all the recipients of the educational offer. The term “open” refers to the content of education and the educational process – understood as methods and tools for learning. To us, “open” means accessible, flexible, developed in collaboration with the school environment, responding to the expectations of the labour market and local society, and tailored to new technologies. Implementation of the idea of openness in education is a guarantee of universal access to information, knowledge and experience exchange. However, in Poland it is still very strongly identified with Open Educational Resources. Additionally, the Ministry of Digital Affairs has expressed strong interest in Open Data, and to some extent treats educational resources as an aspect of this.

The Ministry of Economic Development²⁹⁴ is responsible for managing the implementation of European Funds²⁹⁵ in Poland, including the European Social Fund. The Minister is coordinating the national programme financed by the European Social Fund – OP KED (Operational Programme Knowledge Education Development), which includes Open Content in their action strands including Open Educational Data.

Recently (in the second semester of 2017), however, the Ministry of Science and Higher Education turned its attention to developing an MOOC platform as a way to disseminate scientific knowledge and to offer attractive and valuable education activities, as well as to promote Polish science and culture abroad.

Policy design and involved stakeholders

The key stakeholders of the OP KED initiative are the Ministry of Education, the Ministry of Digital Affairs and the Ministry of Development, which are committed to supporting the development of citizens’ skills and competences, school infrastructure, ICT in education and other education- and culture-related initiatives by providing funding and support for different initiatives and programmes.

Policy dimensions and areas of action

The core policy dimensions are:

- Vocational training and language training (funded through OPKED), which both include elements of Open Education by promoting and supporting the development of openly licensed content. An interesting approach in this context is that the emphasis is being placed first on the content and its value, and then on its openness.
- A general rule of openness for OER, as defined (through a binding policy) for all European Social Fund projects (therefore including all of OPKED and 16 regional Operational Programmes, all of which include educational projects to some extent)
- Open licensing requirements within the Operational Programme Digital Poland, through which educational activities related to coding in schools and e-inclusion will be funded

²⁹⁴ <https://www.mr.gov.pl/en/>

²⁹⁵ <https://www.mr.gov.pl/en/site/what-we-do/european-funds/>

- The government is developing the National Educational Network (OSE), based on new broadband infrastructure for schools, on top of which a layer of services is being built this year – one of them is a planned OER repository.
- A new platform for MOOCs supported by the Ministry of Science and Higher Education

Open education in the OP KED is implemented at several levels:

- ensuring the availability of Open Educational Resources by preparing e-textbooks and developing didactic e-materials accompanying the existing e-textbooks
- creating sets of tools for each educational stage, as well as revision of learning content in terms of students' key competences necessary to operate in the labour market
- reviewing and updating core curricula and other VET content (in cooperation with social partners) in order to take into account employers' expectations regarding knowledge, skills and competences
- strengthening schools' cooperation with entrepreneurs, universities and social partners in order to mobilise business-education partnerships
- inclusion of qualifications into an integrated qualifications system
- increasing the competences of persons participating in higher education to match the needs of the economy, labour market and society
- transnational mobility programmes pursuant to the rules specified for the Erasmus+ programme.

The European Social Fund supports schools in the process of developing the key competences of their students. In the 2014-2020 period the European Social Fund intervention is focused on 4 key areas:

1. the use of modern information and communication technologies;
2. modern teaching (the use of experimental methods in education, including equipping classrooms for teaching mathematics and sciences and to prepare teachers to teach experimentally);
3. training of key competences and skills needed in the labour market (creativity, innovation and entrepreneurship);
4. an individualised approach to each student (providing psycho-pedagogical diagnostic tools and conducting individual work with the student).

As for the e-textbooks, thanks to ESF support (in the previous programming period) 14 open digital e-books have been created. It is planned that by the end of 2023 14 e-textbooks for general education and 150 for vocational education will be developed under the programme. The ESF intervention will also result in more than 13,500 didactic e-materials developed under the programme. All of these materials will be accessible for public use. The funding allocation is €69 million.

Another important priority of ESF intervention is to provide *alternative flexible pathways to attain competences*, including a combination of validation of skills acquired outside formal education and a relevant offer of education or training. The OP KED envisages co-financing the creation and functioning of the Integrated Qualifications Register, which will contain qualifications issued in Poland. The aim of the OP KED projects will be to include all

“complete” qualifications and 200 partial qualifications (non-formal education) in the Integrated Qualifications Register. As a result of the implementation of the Integrated Qualifications Register it is estimated that 270,000 diplomas and certificates will be granted in the field of non-formal education under respective level of the Polish Qualifications Framework. The funding allocation is €54.5 million.

Policy impact to date

Implementation is already widespread: Polish libraries have a longstanding tradition of providing digital access to information, and the Ministry of Education has developed educational repositories that contain some openly licensed content and some copyrighted materials that are freely available to educators²⁹⁶. Most importantly, the government has created an online service (epodreczniki.pl), which provides core curriculum resources for all subjects, and all primary and secondary school grades.

Key barriers and enablers during implementation

The implementation of these measures is being conducted efficiently. However, one interviewee mentioned that many of these measures depend on cooperation with a wide range of stakeholders. A frequent bottleneck, therefore, is the issue of combining various interests.

One of the challenges mentioned by the interviewees is the lack of awareness about open licenses, which may be a driver to promote open education. For example at HE level there is no commitment to open education as there is with Open Access. Due to a lack of awareness and necessary support, grantees of Operational Programmes might not meet the open licensing requirements, or fulfil them only partially. Another challenge that was mentioned is to ensure that proposed innovations are realistic and achievable, otherwise they cannot be implemented.

Relation between policy and EU-level developments

The interviewees stated that policy is in line with EU guidelines for skills and competences development among Member States, and that Poland’s approach is leading in the development of language training for students, equipping them with core skills for the current labour market. The Polish approach is also leading with regard to setting open licensing requirements for ESF-funded Operational Programmes. This approach could also be implemented in other Member States.

Lessons learned and suggestions for future Open Education policies

During the interviews it was suggested that European Operational Programmes should be developed with clear guidelines with regard to Open Licenses, promoting a framework that can be applied across different areas of action. Such open licensing requirements need to be supported by awareness-raising, outreach, training and other support schemes, in order to have them fully implemented in practice.

The inclusion of OER within a broader ICT for education project – the national educational network – is a good template for treating OER as one (core) element of a broader strategy that deals with access to a range of services and resources online.

Also it was suggested that the Erasmus programmes could have a stronger strand in relation to open education; and that in order to promote and support open education

²⁹⁶ <https://wyszukiwarka.efs.men.gov.pl/search?stage=5>

across Member States, a programme such as Europeana for Education should be created, facilitating well-curated and selected materials that can be used by anyone.

3.22 Portugal (PT)

Open Education in the country²⁹⁷

In Portugal, most of the initiatives in open education undertaken either by the Ministry of Education or developed at school level concern *open educational resources*. This is because open education is not yet seen holistically. Paradoxically, there are initiatives on technology, pedagogy, recognition, collaboration, access and leadership – but what is lacking is an integrated approach to these areas. These initiatives tend to be derived from legislation, which is naturally what guides decisions at ministerial level. However, the opposite can also happen, when the Ministry of Education pilots non-compulsory initiatives, and then subsequent evidence of their success contributes to the creation of new legislation. This is the case with the initiative *Conta-nos uma história*²⁹⁸ (Tell us a story), which has been approved by the government and has been conducted by the General Directorate of Education since 2009.

Policy/initiative overview	
Policy title	Conta-nos uma história
Policy URL	http://erte.dge.mec.pt/concurso-conta-nos-uma-historia
Description of the policy	This is a national-level policy in which students are invited to take part in an annual story-writing competition. These stories are published under a CC license and made available on a website. The students deemed to have written the best stories receive a small prize. The main goal of the policy is to promote the use of new media in education, and new methodologies for teaching and learning based on collaborative environments and projects. At the same time it is meant to increase the responsibility of students as consumers of media content.
Policy institution	Ministry of Education – Directorate General of Education
Policy date	2009
Policy status	Current
Language	Portuguese
Policy jurisdiction	National
E&T sector	School education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewee

João Carlos Martins de Sousa, Directorate General of Education, Ministry of Education (focusing on school and secondary education levels)

²⁹⁷ The perspective taken in this case study is at the school education level only.

²⁹⁸ <http://erte.dge.mec.pt/concurso-conta-nos-uma-historia>

Interview results

Vision of open education in the country; role of the Ministry

In Portugal, including at the ministerial level, open education is typically taken to mean OER. There is no specific policy on open education but there are a number of initiatives with open education components, particularly when it comes to the production of educational materials by the Ministry, teachers and students. What is lacking is an integrated view such initiatives.

The Directorate General of Education has technical and executive roles when it comes to policies, and it is the national government that defines them. The regional governments are also responsible for specific areas of education as defined by law. But the fact is that there have been no strategic documents in Portugal in the field of open education – the kind of documents that might have been useful in guiding decisions about what action to take. The closest to an integrated view in this area developed in 1997 with the *Plano Tecnológico de Educação* (Strategy for Technology in Education). An important result of the strategy was the *Portal das Escolas* (Schools Portal)²⁹⁹. This is supported by a digital technological infrastructure and is available to all the members of the educational community – teachers, pupils, parents – and is also open to people in general. It is a space where teachers can share educational resources. All teachers have a password to access the portal and publish their educational materials, which can then be shared.

There are digital resources of all types but with a high proportion of PowerPoint presentations, some of which have a degree of interactivity. Quality control for these resources is conducted at a basic level, in terms of grammar and scientific content. Resource production is centred on the teachers, and from the point of view of the organisation and technology used, this portal is dated and would have to be substantially reformulated in order to have an important role in OER policy. There is another initiative, however, which puts the focus on the students as producers of digital media resources, has been running since 2009, and has been very successful for schools: it is *Conta-nos uma história* (described below).

Besides *Conta-nos uma história* a number of actions have been carried out to alleviate problems in the education system. For example there is an initiative on the continuous professional development (CPD) of teachers, potentially targeting every teacher in the country. The interviewee explains that the way CPD is offered to all these teachers has to be optimised, otherwise it would take too long. Therefore MOOCs are used, based on an EdX platform. Overall, however, there is a certain amount of dissatisfaction with this EdX platform, so discussions regarding the development of a new MOOC server are underway, involving academia, public administrations (e.g. Education, Health) and the national professional development agency.

²⁹⁹ <https://www.portaldasescolas.pt>

These MOOCs are offered to teachers who feel the need for professional development, particularly on the use of technologies in education and new methodologies for teaching and learning. Participation in these CPD MOOC-based initiatives is not compulsory (although desirable) and there has been a completion rate of around 80%. Due to the characteristics of the assessment methods employed, they are not totally certified as CPD as the Ministry would like them to be. This problem could be solved if there were the resources (human and material) to run supervised assessments that would then be recognised fully by the independent authority responsible for teachers' CPD. All the resources of these MOOCs are published under Creative Commons Licenses.

Policy design and involved stakeholders

Conta-nos uma história is a national initiative for basic schools. It is a story-writing competition for students in which their stories are submitted to the initiative's website under the supervision of teachers. Even groups of young learners who are not yet fully literate can submit stories. This initiative has proven to be an important tool for fostering media literacy. As producers of content, students learn to be responsible and critical consumers of media content.

There are several stakeholders in this initiative: the Ministry, national bodies, schools and even the industry³⁰⁰ (e.g. Microsoft). The initiative costs around 5,000 euros annually, paid from the government budget. The other stakeholders provide logistical support to the initiative. The portal is maintained by the Ministry. Overall the interviewee argues that it is a cheap initiative (which is helpful, given the government's current budgetary constraints) and has excellent results.

Policy dimensions and areas of action

All the content available at *Conta-nos uma história* is licensed under a Creative Commons license. It incorporates the following dimensions of the OpenEdu Framework: access, content, pedagogy, leadership and collaboration.

Policy implementation and impact to date

Conta-nos uma história involves approximately 15,000 students and 800 teachers, and it has published 2813 stories during its seven editions:

Table 2. Total stories written during *Conta-nos uma história*. Source: Directorate General of Education

Academic year	Total of stories	Audio	Vídeo	URL
2009/2010	521	521	-	http://historias.dge.mec.pt/
2010/2011	673	372	301	http://historias2010.dge.mec.pt/
2011/2012	400	184	216	http://historias2011.dge.mec.pt/
2012/2013	335	154	181	http://historias2012.dge.mec.pt/
2013/2014	262	145	117	http://historias2013.dge.mec.pt/
2014/2015	296	152	144	http://historias2014.dge.mec.pt/
2015/2016	326	153	173	A specific website was not produced for this academic year. However, many of the stories submitted are available on YouTube.
Total	2813	1681	1132	

³⁰⁰ <http://erte.dge.mec.pt/regulamento-do-concurso-conta-nos-uma-historia>

Key barriers and enablers during implementation

Leadership on the part of the Ministry, with the approval and support of the government, ensured the initiative has been implemented nationwide with a good take-up rate. Other stakeholders are also involved, as previously mentioned, for example contributing by providing the prizes for the authors of the best stories.

The barriers that exist – such as the government’s budgetary constraints – are not related to this initiative in particular. The initiative affected directly by certain barriers was the other one, the *Portal das Escolas*, which often suffers from resistance on the part of teachers when it comes to publishing their materials. This is because according to the interviewee, teachers in Portugal do not normally like to “expose” themselves through their work. Only a very limited number of Portuguese teachers use the portal and its contents, and are willing to publish in it.

Lessons learned and suggestions for future open education policies

The interviewee describes Portugal as a centralised country in which priority is given only to what has been enshrined in national legislation. Therefore it is important to keep decision-makers informed regarding the needs of the country and possible courses of actions to address them. The role of the European Commission (EC) is crucial, argues the interviewee, since ministers meet periodically through the EC to discuss and communicate their policies. Macro frameworks provided by the EC are extremely helpful since they provide orientation about the kinds of policies that can and should be implemented, based on research evidence. Otherwise policies without proper foundation are often introduced, causing more harm than good.

Besides the EC, national bodies – such as the Ministry of Education in the case of Portugal – must keep up their role as providers of information to politicians and action-drivers.

In terms of policies in Portugal, the interview says: “We currently expect the release of a new document related to a large-scale initiative on digital technology, but it has not yet been approved.”

3.23 Romania (RO)

Open Education in the country

A country report³⁰¹ on OER in Romania was produced by POERUP in 2014. In terms of OER in adult education, the country was also studied in 2015 for the ADOERUP project funded by the European Parliament, with advice from an in-country expert,³⁰² and in the EU OERup! Project³⁰³. A useful synthesis of OER-related analytic work with the catchy title *The Power of the Three Words and One Acronym: OER vs OER* was published³⁰⁴ in 2015 by a team of Romanian experts.

As described in the latter paper, there have been significant developments over many years in national OER policies, flowing from the former Knowledge Economy Project³⁰⁵ (KEP) implemented by the Ministry of Communication and Information Society in 2005-2013 and funded by the World Bank. The Ministry of Education, Research, Youth and Sport was a partner in this programme, which had three components: Expanded access to Information & Communication Technologies and improved digital literacy; Development and promotion of government e-services; and Promotion of e-commerce and innovation support for SMEs.

One of the important activities of the KEP project towards the field of open education was the elaboration of a set of recommendations for the Romanian Ministry of Education for policies supporting Open Source (OS), Open Educational Resources (OER) and Open Educational Practices (OEP): to adopt a clear definition of open licenses and to support the principle that publicly funded products should carry such licenses; to facilitate the sustainable implementation of OER by creating incentives for use and reuse, and funding technical infrastructure to increase access to OER.

Some of these recommendations were specified in the *Proposal for public policies for ICT integration in the pre-university system* and adopted by the Ministry of Communication and Information Society and by the Ministry of Education, Research, Youth and Sport as long ago as 2007. The activities in the KEP project have led schools towards a shift in focus from the resources themselves towards the practices associated with the creation, use and management of OER: that is, open educational practices (OEP).

The Government Programme for 2013-2016³⁰⁶, adopted in December 2012, specifies that the Ministry of Information Society and the Ministry of Education will collaborate to support the innovative integration of Web 2.0 and Open Educational Resources in education, to promote the use of open/free resources and the development and sharing of resources by teachers and students.

The Romanian Coalition for Open Educational Resources was formed in October 2013. The initial memorandum of understanding was signed by the members of the project OER Awareness Activities for Librarians and Academics in Romania and has also been signed by private companies.

³⁰¹ <http://poerup.referata.com/wiki/Romania>

³⁰² [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU\(2015\)563397_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU(2015)563397_EN.pdf), pp. 124-128

³⁰³ http://www.oerup.eu/fileadmin/_oerup/dokumente/need_analysis_report_IREA_Romania.pdf

³⁰⁴ <http://www.sciencedirect.com/science/article/pii/S1877042815027299>

³⁰⁵ <http://documents.worldbank.org/curated/en/764741468333031527/pdf/ICR26580ICR0Ro000PUBLIC00Box379811B.pdf>

³⁰⁶ <http://arhiva.gov.ro/upload/articles/105576/program-de-guvernare-2013-2016-bun1.pdf> – see especially pp. 22-23

In the library context, the OpenDOAR portal reports that there are just three³⁰⁷ Open access repositories in Romania. Progress seems slow in this area, therefore.

MOOC initiatives include:

- UniCampus³⁰⁸, a project supported by the Ministry of Education, started in 2014 under the initiative of University Politehnica Timisoara and developed by the Association of Technical Universities from Romania³⁰⁹ to offer MOOCs
- UniBuc Virtual³¹⁰ (from the University of Bucharest) offers three MOOCs for teacher-training
- The mooc.ro portal³¹¹.

There is also an increasing in-Romania literature³¹² on MOOCs.

The Distance Learning Portal³¹³ indicates that there is just one institution offering distance learning in Romania, "Eftimie Murgu" University in Resita,³¹⁴ but searches indicate that there are in fact others, including the Transylvania University of Brasov,³¹⁵ the Polytechnic University of Timisoara³¹⁶ and the "Babes-Bolyai" University of Cluj-Napoca³¹⁷ – and probably many more.

National Strategy on the Digital Agenda for Romania 2020

In 2014 the Romanian government adopted the National Strategy on the Digital Agenda for Romania 2020, which focuses on three main pillars: the modernisation of the public administration, supporting the competitiveness of the private sector via ICT, and providing ICT access and digital education to the public at large. The full plan, available in English, is a very long document³¹⁸ but there is a useful summary³¹⁹ from which the following material is taken. It sets out four areas of action. First, e-Government, Interoperability, Cyber Security, Cloud Computing and Social Media – which aims to increase efficiency and reduce costs in the public sector in Romania by modernising the administration. Second, ICT in education, culture and health – which aims to support these technologies at the sectoral level. Third, ICT in e-commerce, and research, development and innovation in ICT – aimed at regional comparative advantages of Romania, and backing growth in the private sector. Fourth, Broadband and digital infrastructure services – aimed at ensuring social inclusion.

A full implementation of the strategic vision of the ICT sector in Romania will result in a total investment of around €2.4 billion.

Concrete measures set out in the strategy will lead to:

³⁰⁷ <http://www.opendoar.org/find.php?cID=177&title=Romania>

³⁰⁸ <https://unicampus.ro>

³⁰⁹ <http://rouni.ro>

³¹⁰ <http://www.unibuc-virtual.net>

³¹¹ <http://mooc.ro>

³¹² For example, "A Comparative Analysis of MOOC (Massive Open Online Course) Platforms", published in the Romanian journal *Informatica Economică* (vol. 20, no. 2/2016) – <http://www.revistaie.ase.ro/content/78/01%20-%20Conache,%20Dima,%20Mutu.pdf>

³¹³ <http://www.distancelearningportal.com> – search for "Romania"

³¹⁴ This has a Department of Distance Learning – <http://www.uem.ro/index.php?id=86>

³¹⁵ <http://www.unitbv.ro/en/AcademicProgrammes/Bachelor%E2%80%99sDegreeProgrammes/DistanceLearning.aspx>

³¹⁶ <https://niif.videotorium.hu/en/recordings/949/the-development-of-the-politehnica-university-of-timisoara-distance-learning-web-portal>

³¹⁷ <http://www.ceebd.co.uk/ceed/un/rom/ro019020.htm>

³¹⁸ <http://www.mcsi.ro/Transparenta-decizionala/Proiecte-2014/Digital-Agenda-Strategy-for-Romania,-8-september-2>

³¹⁹ <http://gov.ro/en/government/cabinet-meeting/national-strategy-on-the-digital-agenda-for-romania-2020>

- Ensuring access to electronic public services for citizens and organisations (e-government services);
- Improving access to the Internet by increasing the coverage of high-speed electronic broadband communications networks;
- Increased use of the Internet;
- E-commerce promotion;
- Increasing the number of cross-border electronic public services;
- *Enhancing digital content and the development of ICT infrastructure in education, health and culture;*
- Supporting the growth of the ICT sector added value by supporting research, development and innovation in the field.

However, after reviewing this and noting that only one measure was directly relevant to open education, it was decided to focus for the interview on the Open Government Plan for Romania which has several interesting aspects relating specifically to OER.

Policy/initiative overview	
Policy title	National Open Government Plan (Virtual School Library and Open Educational Resources)
Policy URL	http://www.opengovpartnership.org/sites/default/files/Romania-NAP_2016-2018%20EN.pdf
Description of the policy	With the objective of improving transparency in the public education system, the 2016-2018 National Action Plan for Open Government has introduced a chapter on education to help implement the legal framework for the use of OER created through the Law on national education no. 1/2011, called the Virtual School Library. By creating the Virtual School Library ³²⁰ (work should have started in September 2016) and defining a national policy regarding open educational resources, the commitment aims to increase access to quality education and foster innovation.
Policy institution	Ministry of National Education and Scientific Research
Policy date	2016
Policy status	Current
Language	Romanian, English
Policy jurisdiction	National
E&T sector	School education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input type="checkbox"/> Collaboration <input type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership

The Virtual Library

³²⁰ See Commitment 16 on pp. 51-54 of the OGP Plan http://ogp.gov.ro/wp-content/uploads/2016/11/NAP_2016-2018-EN.pdf

This material³²¹ is taken from the OGP Plan for Romania, Commitment 16.

By creating the Virtual School Library and defining a national policy regarding open educational resources, the commitment aims to increase access to quality education and foster innovation.

The sources for these materials will be:

- documents produced by the MENCS³²² and subordinate agencies, particularly curricula and textbooks that the Ministry buys directly;
- resources produced in EU-funded programmes, regardless of the beneficiary. The financing contracts will include clauses stating that the resources produced will be published under an open license and will be uploaded on the national portal;
- new resources created by teachers and used for teaching activities, including school inspections. It is well known that teachers are constantly creating materials, and these can also be uploaded to the portal;
- resources that have already been developed by teachers and are distributed to other communities. The users of these communities will be encouraged to transfer the most valuable resources to the national portal;
- educational resources produced as a result of the implementation of EU-funded projects will be part of this library;
- starting a public consultation process regarding the acquisition of textbooks, so that the content of the textbooks is also bought and becomes the property of MENCS;

The implementation terms will be discussed and agreed within the MENCS.

Interviewees

- Radu Puchiu, Secretary of State, Office of the Prime Minister.
- Diana Andone, Director, eLearning Center, Politehnica University of Timisoara.

Interview results

Vision of open education in the country; role of the Ministry

In Romania, public efforts for opening up education are mainly framed under the Open Government Partnership (OGP) umbrella. This has allowed several discussions to take place, involving civil society (NGOs, universities) as well as governmental services. Since not all relevant discussions in the country are framed under the open education “label”, the OGP is a good place for dialogue between government and civil society to happen. A Coalition on Open Education³²³ was launched in 2013 involving many stakeholders. In terms of vision, we cannot say that there is a common understanding but progress is being made through the discussions framed in the OGP work. The Prime Minister’s Office is in charge of the whole OGP partnership while the Ministry of Education³²⁴ is in charge of the Commitment of the OGP related to education, and cooperation between the two institutions is smooth.

³²¹ See previous footnote

³²² MENCS is the abbreviation for the Romanian name of the Ministry: *Ministerul Educației Naționale și Cercetării Științifice* – <http://www.edu.ro>

³²³ For some background see the report of the second *Romanian National Open Education Conference, 2015*, at <http://education.okfn.org/romanian-noec/>

³²⁴ <http://www.edu.ro>

Policy design and involved stakeholders

The whole OGP resulted from a large consultation process in which independent recommendations and comments from civil society were submitted to the government. As for open education, the OE Coalition submitted a number of proposals for the National Action Plan. Within the OGP, every action is provided with a budget, connected to the one of the ministries responsible: in the case of open education the budget is taken from the general allocations of the Ministry of Education.

Policy dimensions and areas of action

The main dimensions addressed by the **National Open Government Plan** are: access to education (also for disadvantaged people and communities), content, collaboration, leadership and strategy. These dimensions are vital in order to achieve a real transformation of education in Romania, and were taken into consideration when the policy was designed.

Policy implementation and impact to date

A first important impact of the **National Open Government Plan** was to raise the visibility of open education in Romania. A number of actions are ongoing, with the Ministry of Education significantly involved (which is not the case in all chapters of the OGP) and strong engagement by civil society organisations: stakeholders are working on the Virtual Library platform, which includes five open courses already. The Office of the Prime Minister has set some deadlines for each activity, for example for the collection of resources for the Virtual Library: they expect to achieve this by the end of 2017. What is not yet in place is a clause stipulating that all products of EU projects shall be openly licensed.

Key barriers and enablers during implementation

The two main challenges are *capacity*, meaning that most teachers and other staff lack the skills to work with open methods and resources, and *leadership*, which is important in order to raise the profile of open education.

Leadership is particularly important since many stakeholders are afraid of change. Committed leaders must be found at all levels and sectors. A push from above is not enough: instead there need to be leaders and champions who use the data and the resources that have been openly produced. These challenges persist even in universities that do work on open education and that have MOOCs (such as the Polytechnic University of Bucharest),³²⁵ mainly because universities are afraid of opening up their offer.

Relation between policy and EU-level developments

The general perception is that the work carried out by European institutions helps in terms of the funding and regulation of important areas. The Office of the Prime Minister takes inspiration from the work of the EU and its policies. The EU is not perceived as important by all stakeholders, however: for example although the National Research Agency has been aware that the EC is pushing hard for Open Access, it has not yet adopted Open Access as a default for publicly-funded research results.

Lessons learned and suggestions for future open education policies

³²⁵ <http://www.upb.ro/en/>

The first **recommendation** provided by the interviewees is that for countries which have an established national agenda (through the Open Government Partnership in the specific case of Romania), receiving European recommendations and a framework indication would be very helpful not only in open education but also in Open Access for research and Open Data, since it would further strengthen the efforts of the national government.

Secondly, it was suggested that since the open education community in Romania is quite small, with people knowing how to use the tools but less familiar with the concepts, the EU could help mainstream OER and OE by reaching out to practitioners in the country who are not used to working with these approaches.

In summary, the interviewees concluded that there is a problem of visibility at two levels. What the EU is doing on open education should be more visible in Romania, and what Romania does in the field should be more visible in Europe. Because of this fact, studies like this one are extremely useful.

3.24 Slovakia (SK)

Open Education in the country

There is little prior information on OER or more general open education activity in Slovakia. The OER World Map³²⁶ has no entries for the country; and POERUP narrative reports and databases of 2014³²⁷ contain no information on MOOCs or OER there. However, mention should be made of the recent (2016) BizMOOC³²⁸ project involving Košice IT Valley. Slovakia does not feature in the OpenDOAR portal³²⁹ in terms of Open access repositories in the country.

However, the **Open Government Partnership National Action Plan** includes commitments for OER and Open Access, which justified its inclusion as the policy chosen for the interview.

Policy/initiative overview	
Policy title	Open Government Partnership Action Plan
Policy URL	http://www.minv.sk/swift_data/source/rozvoj_obcianskej_spolocnosti/otvorene_vl_adnutie/akcne_plany/2015/OGP_2015_Action-plan-Slovakia_final.pdf
Description of the policy	<p>One chapter of Slovakia's OGP Action Plan for 2015 is devoted to OER, starting with the statement: "Creation of educational materials used in public institutions is primarily financed through public funds and therefore these should be available for public re-use, including other purposes than originally intended, just as it is with Open Data." A number of activities were planned for 2015:</p> <ol style="list-style-type: none"> map existing digitally available educational resources and repositories at the Ministry of Education, analyse and propose a procurement process of educational resources in primary and secondary education and identify possible barriers to their publication under "Creative Commons Attribution" open license, run a pilot of the procurement process, propose measures and their implementation to raise awareness among teachers and other educational staff about open educational resources, and join multilateral activities in Europe and beyond that support the creation, improvement, sharing and re-use of open educational resources.
Policy institution	Ministry of Education
Policy date	2015
Policy status	Finalised
Language	English, Slovak
Policy jurisdiction	National
E&T sector	School education

³²⁶ <https://oerworldmap.org/country/sk>

³²⁷ <http://poerup.referata.com/wiki/Slovakia> and http://poerup.referata.com/wiki/Open_Education_Initiatives_-_by_country

³²⁸ http://www.kosiceitvalley.sk/en/2016/04/22/society-survey-on-massive-open-online-courses-mooc_bizmooc/

³²⁹ <http://www.opendoar.org/find.php>

Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Strategy <input type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership
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Interviewee

Iveta Ferčíková, State Advisor at the Office of the Plenipotentiary for the Development of the Civil Society, Slovakia.

Interview results

Vision of open education in the country; role of the Ministry

The interviewee argues that there is a good understanding of open education³³⁰ both at the Ministry of Education³³¹ and at the Ministry of Interior³³², and that their joint vision is that it is necessary to change the teaching and learning culture in the country. The education commitments inside the OGP national plan aim to reform education and change the way resources are used and produced, in order to develop a culture of collaboration.

Policy design and involved stakeholders

For the OGP plan there are two main stakeholders in relation to the education commitments: the Office of the Plenipotentiary of the Government of the Slovak Republic for the Development of the Civil Society (part of Ministry of Interior), and the Ministry of Education, Science, Research and Sport. Additionally, to embed the open education commitments in the plan, a national working group was established, including members from NGOs, academia and the ministries, which worked for two years to draft and discuss the action plan while the Ministry of Education evaluated the viability of the commitments.

Policy dimensions and areas of action

The main dimensions and areas of action of the National Open Government Partnership are related to Open Data, Open Education, Open Justice, Civic Engagement and the national legislative framework.

The main goal with regard to open education is to challenge the traditional ways of teaching and learning, and to enhance the digitisation of resources, but also to provide verifiable and reliable information to reduce credulity when it comes to false and fake websites that misinform the public.

³³⁰ Throughout the interview, when she mentions "open education" the interviewee is actually referring to OER.

³³¹ In full, the Ministry of Education, Science, Research and Sport – <https://www.minedu.sk/about-the-ministry/>

³³² <http://www.minv.sk/?ministry-of-interior>

Another goal is to provide an effective mechanism to change procurement, because the current situation is that if publishers are commissioned by the government to produce educational content, it has to be released under Open Licenses.

Policy implementation and impact to date

As the commitments of the **Open Government Partnership Action Plan** are quite new, their implementation is still in progress, but the Ministry of Education is promoting the commitments and intends to find effective means of raising awareness about open educational resources. Also the Ministry is aiming to support the development of a repository of open resources.

Key barriers and enablers during implementation

The main barriers encountered were the difficulty in introducing the concept of open education within the Ministry; followed by the challenges presented by the publishers, which are seeing a change in the procurement mechanisms that may see their business model change radically.

Relation between policy and EU-level developments

The interviewee affirmed that the Open Government Partnership plan aligns with broader international agendas, and that Slovakia is playing a pioneering role in including open education in the commitments.

Lessons learned and suggestions for future open education policies

The interviewee **recommended** that open education should be introduced to the Member States using a *common framework*.

She also argued that it is **necessary** for the EU to provide leadership, support and recommendations for education ministries, and **financial mechanisms** to create national repositories for OER.

Finally, she stated that it is important to develop a common framework in relation to procurement of educational resources and textbooks commissioned to private publishers by the governments and funded with public funds or with European funds, to be published under open licenses.

3.25 Slovenia (SI)

Open Education in the country

“Opening Up Slovenia” is a bottom-up approach to policy development and implementation. Above all the initiative is a framework for engaging various stakeholders in order to discuss and implement openness in support of the digital transformation not only of education but also of businesses, industry and government. Opening Up Slovenia is not a piece of legislation, nor is it compulsory for anyone to get involved. However, everyone is invited and expected to participate and co-shape the initiative: teachers, learners, schools, governments and industries. One of the main stakeholders is the Ministry of Education, Science and Sports. The Ministry contributed towards designing the vision and action plan of the initiative, and plays an important dissemination and support role in its relations with different stakeholders.

Policy/initiative overview	
Policy title	Opening Up Slovenia
Policy URL	http://www.ouslovenia.net/
Description of the policy	Opening Up Slovenia is a bottom-up approach supported by many different stakeholders, including the Ministry of Education and Sports, and this fact gives it sustainability and wide dissemination across the country. It is a framework with the long-term objective of involving stakeholders in discussing, researching, developing, implementing, testing, validating and sharing good practice on open education and “openness beyond education”. The framework is as a conduit for promoting the open education agenda nationally, regionally and internationally.
Policy institution	Ministry of Education and Sports
Policy date	2015
Policy status	Current
Language	Slovenian, English
Policy jurisdiction	National mostly, with international collaborations
E&T sector	school, secondary, higher and lifelong learning
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input checked="" type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewees

- Borut Čampelj, Secretary of Education and Development Office, Ministry of Education, Science and Sport.
- Davor Orlic, COO – Knowledge for All Foundation, Co-founder of videlectures.net and Project officer at Opening Up Slovenia.

- Mitja Jermol, Head of Centre for Knowledge Transfer at Jožef Stefan Institute and UNESCO chair in open technologies for OER and open learning.

Interview results

Vision of open education in the country

Opening Up Slovenia is about the digital transformation of society. In this broad sense it encompasses various open practices (OER, open pedagogies, open technologies, collaboration, etc.). It is also concerned with digital competences (of citizens, teachers, learners) as a route to digital transformation. Open education is seen in the context of the 10 dimensions of open education in the OpenEdu Framework, and is not limited to open educational resources.

Policy design and involved stakeholders

The country's biggest initiative in open education, Opening Up Slovenia was conceptualised in 2013 and officially launched in 2015. The government hopes the initiative will enable Slovenia to become the first green reference country on digital transformation and the first open reference country, serving as a case study for others to follow.

Opening Up Slovenia is a framework; a think tank with many stakeholders from different sectors, all treated as equal players, with the aim to discuss problems (e.g. related to digital education) and come up with solutions. It is a framework in the sense that it is a support mechanism for various projects. It brings them together, showcases them and helps establish partnerships and collaboration among the stakeholders. The ultimate goal is to design, implement, test, validate and share good practices.

There is not a specific document regulating Opening Up Slovenia, instead there are overarching goals which help framing the initiative. These goals were based on the computer literacy action project, which was designed in 1993 with the aim of introducing ICT in education in Slovenia. This literacy action project is a type of national action plan for education and is updated every seven years; the most recent update was in 2016³³³. It was in this last revision that open education was first mentioned specifically in the document, as a support mechanism for digital transformation in different education sectors.

The document mentions the creation of an open platform for cooperation on information technology, e-content, (e-)services, pedagogical concepts and approaches, added-value models, as well as motivational mechanisms (e.g. positive legislation) in open education.

Policy dimensions and areas of action

When mapped against the OpenEdu Framework, Opening Up Slovenia deals with all the 10 dimensions (access, content, pedagogy, collaboration, research, strategy, technology, leadership and quality), which can be observed in the following objectives of the initiative:

- To update and modernise existing educational approaches in order to develop innovative and dynamic open learning environments and foster knowledge exchange. This goal will be achieved by:

³³³ http://www.mizs.gov.si/fileadmin/mizs.gov.si/pageuploads/URI/Slovenian_Strategic_Guidelines_ICT_in_education.pdf

- ensuring appropriate digital competences, skills and knowledge for everyone directly involved in the processes of education
- upgrading the open learning environments in educational and research institutions, which will enable the exchange of knowledge and experience between different fields
- developing an open platform (repository) of information technology, content, services, pedagogical concepts and approaches, models of added value and motivational mechanisms in open learning ('open by default' services)
- modernising approaches to leadership and management, which should be responsible, inclusive and autonomous
- Develop a legislative environment and mechanisms for quality assurance and control of open learning services. The objective will be achieved by:
 - updating the existing legislation, and where necessary introducing new legislation that will be geared to enable the development and implementation of open learning principles
 - creating clear quality standards of open education in cooperation with all the relevant stakeholders
- Create a collaborative environment for interdisciplinary and intersectoral research, development and deployment projects of open education where cooperation of public, private and non-governmental sectors will be paramount. This objective will be achieved by:
 - fostering public-private and public-public partnerships that will ensure sustainable national, EU and international funding (e.g. Erasmus+, Horizon2020, European Structural and Investment Funds, World Bank, UNESCO, US educational institutions)

Policy implementation and impact to date

Below there are three examples of projects (in one case actually a collection of projects) under the umbrella of the Opening Up Slovenia initiative:

- **X5gon³³⁴: Cross Modal, Cross Cultural, Cross Lingual, Cross Domain, and Cross Site Global OER Network** is an H2020 project combining content understanding, user-modelling and quality-assurance methods and tools to foster the creation of a homogenous network of OER sites and repositories, and it also provides users (teachers, learners) with a common learning experience based on "open" content. It is a prime example of innovation with machine-learning technologies being used for unlocking the potential of European OER. The project has been partially delivered for Slovenian OER sites, but with an extension into an EC grant it is fully deploying open technologies for recommendation, learning analytics and learning personalisation services that will work across various OER sites independent of languages, modalities, scientific domains and cultural contexts. X5gon will produce a technology stack in a platform format that will be extended to European Member States, thus promoting the use and uptake of OER and open education. It will invite Europe to act more practically and make an argument for why acting in a systemic way

³³⁴ <http://www.k4all.org/project/x5gon/>

is vital. The rationale will address the six new priorities for Education 2020 and invite EU policymakers to engage in a more in-depth discussion beyond Erasmus+, OER, etc., with coordinated action in accordance with MS needs.

- **MyMachine Slovenia³³⁵(MIZS)** is a project developing, piloting and scaling up new approaches for education and skills, featuring the ethos of *open*. It is probably one of the flagship projects within Opening Up Slovenia as it combines almost all 10 elements of the Open Education Framework. It brings together inter-generational learners (primary, secondary, HEI) into designing and building a child's "dream machine". It was implemented in order to address a lack of sufficient collaboration among research, entrepreneurial and policy stakeholders in teaching and learning practices, and a lack of **inter-generational learning**. It supports young people with a specific methodology, tools, open educational resources and an open environment encouraging experimentation and the development of joint "makers" projects based on interdisciplinary approaches. Because of its effectiveness and open educational practices, MIZS was exploiting its design and approach, to be used as an effective blueprint and pipeline it into the Slovenian educational system. MIZS issued a call for proposals for a nationwide large-scale project using the results of the initial project with the idea to guide young people into their entrepreneurial journey.

MIZS is a project within the Opening Up Slovenia ecosystem, funded by the Jožef Stefan Institute (Centre for Knowledge Transfer in Information Technologies), which also hosts the UNESCO Chair on Open Technologies for OER and Open Learning. It has been running since 2015 and is in its third cycle. It has produced 18 "dream machine" prototypes, two exhibitions, 27 education institutions (primary, secondary, HEI) and several companies (depending on the nature of the prototype). It has also inspired two candidates to become early-stage researchers.

- **Six new projects** (€12.58 million, co-financed by European Social Fund (2017-2022)). These projects aim to develop and implement open and innovative learning environments and flexible forms of learning so as to develop students' general competences (reading and cultural literacy, communication ability, multilingualism, mathematics and science: promotion of critical thinking and problem solving, computational thinking, pedagogy to implement personalised and collaborative learning and formative assessment).

The necessary conditions to achieve open and innovative learning environments are:

- four types of mandatory partner for each of the six projects: Schools – all levels of pre-university education to be involved (primary, lower- and upper-secondary; vocational training/education; and kindergarten). In these six projects, at least 285 schools have participated – out of which the majority is primary/lower secondary, and the remaining are upper secondary schools and kindergarten schools; Public institutions/services (curriculum, teacher-training, school leadership, national examination); Educational faculties (for teachers); Public research institutions (surveys, development projects, cross-curricular activities)

³³⁵ <http://www.ouslovenia.net/project/mymachine/>

- Bottom-up and top-down approach – two types of school are involved (development and implementation schools)
- Development of supportive environment for schools, teachers, headteachers, students
- Sustainability of partnerships – national, institutional, individual level
- “Whole school” approach (innovative schools: development team including headteacher; get more teachers involved year by year)
- Systematic potential changes and motivational approaches.

Key barriers and enablers during implementation

When Opening Up Slovenia started, the first challenge was that there were too many stakeholders who had slightly different perspectives on ICT in education. Some were pushing Slovenia to embrace the digital era while others were not so keen on ICTs. The initiative itself helped bridge this gap between these stakeholders, by promoting dialogue and information exchange.

Relation between policy and EU-level developments

Opening up Slovenia plays a key role in strategic documents which have been submitted to the European Commission as part of the necessary interchange between these stakeholders, such as in the Operational Programme for the European Cohesion Policies (2014-2020) and Slovenia’s Smart Specialisation Strategy. Part of the funding received by the Commission via the structural funds is used towards sustaining the various projects which are part of the ecosystem of the initiative.

Opening Up Slovenia was directly inspired by the Opening Up Education Communication³³⁶ of the EC, and it was developed as a bottom-up strategy to be accountable to new European developments on open education. Slovenia also participated actively in the working groups³³⁷ run by DG EAC for all the education ministries of EU Member States and for civil society, when the Open Education Communication was being developed.

³³⁶ <http://eur-lex.europa.eu/oj/direct-access.html>

³³⁷ http://ec.europa.eu/dgs/education_culture/repository/education/policy/strategic-framework/expert-groups/documents/wg-digital-mandate_en.pdf

3.26 Spain (ES)

Open Education in the country

Spain has a number of interconnected policies and initiatives which support open education. These include OER, open source technologies and MOOCs. One of the most prominent ones is the Plan de Cultura Digital en la Escuela³³⁸ (Plan for Digital Culture in Schools), a national policy that addresses ICT applied to education, including various actions towards open education such as an OER repository and a service entitled PROCOMUN, as well as an open source tool for OER development by the name of EXELEARNING. This policy has been in place since 2012.

The main policy goal is to enhance education by getting better results, both in terms of quality and quantity, and through the productive use of technology in schools. The results can be in terms of equal opportunities in education, reduction of early school leaving, learning personalisation, or better preparation for 21st-century skills.

Policy/initiative overview	
Policy title	Plan de Cultura Digital en la Escuela
Policy URL	http://blog.educalab.es/intef/2013/04/16/plan-de-cultura-digital-en-la-escuela/
Description of the policy	This is a framework for supporting schools with seven main actions, two of which involve open education. Procomun entails the use and support of a repository for open educational resources; the other action is a catalogue for open educational resources, called Punto Negro, which includes the creation of open textbooks.
Policy institution	Ministry of Education – INTEF
Policy date	2012
Policy status	Current
Language	Spanish
Policy jurisdiction	National
E&T sector	School and secondary education
Dimension of impact	Core dimensions <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input checked="" type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input checked="" type="checkbox"/> Research Transversal dimensions <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

³³⁸ <http://blog.educalab.es/intef/2013/04/16/plan-de-cultura-digital-en-la-escuela/>

Interviewees

- Felix Serrano Delgado, Director, National Institute of Educational Technologies and Teacher-training (INTEF³³⁹), Spanish Ministry of Education, Culture and Sport
- Miguel Ángel Pereira Baz, Director, CEDEC³⁴⁰
- Cristina Valdera López, Head of Service, CEDEC

Interview results

Vision of open education in the country

Open education contributes towards enhancing education by promoting the achievement of better results, both in terms of quality and quantity, and through the productive use of technology in schools. The results can be in terms of equal opportunities in education, reduction of early school leaving, learning personalisation, improved teaching methods and teachers' skills, as well as better preparation for 21st-century skills in general. Open educational resources have been at the core of this initiative, followed by open source technologies and MOOCs for teacher-training.

The open education projects Procomun, *La Aventura de Aprender* (learning adventure), EDIA, ExeLearning and MOOC training (part of the Plan for Digital Culture in Schools) can enable these results in a generalised way, both in terms of national and international education.

Policy design and involved stakeholders

These initiatives have low costs in relation to the high number of users who benefit from them. The main stakeholder is the Spanish Ministry of Education, acting in collaboration with the regional governments of Spanish autonomous communities, schools, teachers and learners.

INTEF (National Institute of Educational Technologies and Teacher-Training) is the unit of the Spanish Ministry of Education, Culture and Sport where many open education initiatives are coordinated, including the Digital School Culture Plan, the PROCOMUN project, MOOCs for teacher-training, and the open education projects run by CEDEC³⁴¹ (National Centre for the Development on Non Proprietary Systems).

CEDEC is an organisational unit dependent on the Spanish Ministry of Education through INTEF, created in 2009 in cooperation with the Autonomous Community of Extremadura³⁴² to support the design, development, and promotion of digital educational contents. CEDEC's work is for the whole country, and they are in charge of promoting actions and strategies to further develop the production, use and general uptake of digital content in education. They work with teachers in the creation and testing of open educational resources and related tools, and provide continuous professional development for teachers in Spain. The resources produced are meant to be used by teachers, students and families – and they all carry an open license (Creative Commons).

³³⁹ INTEF in Spanish stands for Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado.

³⁴⁰ CEDEC in Spanish stands for Centro Nacional de Desarrollo Curricular en Sistemas no Propietarios.

³⁴¹ As above.

³⁴² <http://www.boe.es/boe/dias/2009/09/03/pdfs/BOE-A-2009-14159.pdf>

Policy dimensions and areas of action

These policies cover nine out of the 10 dimensions of the OpenEdu Framework. At the moment there is no formal recognition of teacher-training via MOOCs offered by the Ministry.

Policy implementation and impact to date

The Ministry of Education, Culture and Sport, along with the regional administrations, is responsible for the design and development of the Digital School Culture Plan (*Plan de Cultura Digital en la Escuela*), of which the National Institute of Educational Technologies and Teacher-training (INTEF) is responsible for coordination, and CEDEC cooperates with it in relation to the implementation. The Ministry also finances most of the actions included in this plan.

Procomun, Exelearning and MOOCs for teacher-training were evaluated as part of Open Government Partnership self-evaluation and external evaluation. Self-evaluation is available, in Spanish, at the Spanish Transparency Portal. External evaluation³⁴³ found substantial completion and moderate impact of the project, with a clear value relevance.

The total budget of the Spanish Ministry of Education for 2015-2016 for Open Educational Resources (OER) development, Procomun, ExeLearning, and MOOC was €4,314,004, as the following table shows:

Spanish Ministry of Education budget for:	2015	2016
OER	€1,384,476	€1,430,574
PROCOMUN	€201,263	€305,177
MOOC	€286,530	€705,984
Total	€1,872,269	€2,441,735

The above figures do not include indirect, general infrastructure or staff costs. CEDEC considers the impact to have been good (although it acknowledges improvements can still be made). CEDEC always uses teachers' networks on Twitter and other social networks to further disseminate their work, resources and methodological tips for other teachers. The rate of access to CEDEC's website and open educational resources are:

- 1,433,337 page visits in 2016
- 934,458 users to date
- 50,522 Twitter followers
- 3,000 (approx.) downloads of OER from CEDEC's website

Key barriers and enablers during implementation

Regarding open educational resources, the main driver is the availability of directly applicable digital educational resources for teaching and learning practices. These resources also make it possible to modify and re-publish digital content created by teachers (or other education stakeholders).

The main challenge is to simplify as far as possible the process of locating the

³⁴³ http://www.opengovpartnership.org/sites/default/files/Spain_2014-15_IRM.pdf

appropriate content, as well as to deliver easy tools to adapt the content to everyday school needs. Both Procomun and Exelearning are designed to address these challenges.

As for the open training for MOOC, the main driver is their capacity to deliver competence-based training with a highly scalable platform and low cost per student, worldwide reach, and continuously evolving processes quickly adapted to new training needs.

However, the main challenge related to open training is certification. At the moment the open courses issue digital badges which showcase learning outcomes, goals and professional competences, but those badges are not regarded as a means to acknowledge training hours. Therefore they are not useful for teachers who work in state-funded schools in Spain.

Relation between policy and EU-level developments

The Ministry tends to develop policies that are not only in line with Spain's own goals and needs (taking into account the autonomous communities) but also those of Poland.

The Ministry has been following the open education agenda of the European Commission and works closely with the EC's JRC in a number of aspects, such as participating in workshops and research projects. All of these influence policy development. For example, with regards to Spanish MOOCs offered by the Ministry of Education, the evaluation is currently being carried out through the JRC's Moocknowledge³⁴⁴ project. According to their latest publication of results, the open training run by INTEF has fully achieved its goals and can serve as a model for the rest of Europe.

The interviewees argue that:

"The European Union plays a key leadership role in education that supports and helps each country's activities. In this sense most of the actions developed or implemented by the EC are very welcome by Spain, as a Member State. Especially valuable are the studies and standards definition in the area of Digital Competences. The Spanish Ministry of Education is adopting the EU frameworks for Digital Competence in Education, and cooperating with EU institutions in their activities in this field.

As for the Open Educational Resources, a European platform for OER that integrates national platforms, based on a distributed database [the same model as for the Spanish *Agrega*] could be very helpful."

³⁴⁴ <http://moocknowledge.eu/>

- The HEIs should be allowed to use their funding for the development and implementation of open online courses up to a specified level.
- In order to provide all HEIs with the possibility of developing open online courses, earmarked direct funding should be allocated for the organisation of such courses as well as for the development of digital methods for teaching and learning in higher education.
- Although open online courses should be offered free of charge, the HEIs should be permitted to charge fees for certificates awarded for these courses. This would facilitate cooperation with the international platforms and the HEIs themselves would be able to choose the channels used to distribute their courses.

The report was circulated for consultation. The proposals in the report and the consultation comments are now being considered by the government. The proposals are controversial to some Swedish interests – in particular the recommendations that MOOCs should occupy a zone separate from accredited higher education and therefore supplementary fees might be charged for their certificates. In the view³⁵⁴ of the university teachers' trade union, this is a new assault on the principles of free state education, already eroded in the period that non-EU students have been obliged to pay fees.

There is no timescale given by the government as to when any conclusions on MOOCs might produce concrete policies.

With regard to Open Access, the OpenDOAR portal records³⁵⁵ 42 Open access repositories in Sweden.

Schools and Adult Education sectors

As regards ICT in schools, the Swedish government has taken steps to provide teachers, principals and education providers in compulsory and upper secondary education with extensive continuing professional development on ICT, and is also currently working with the ambition to present a national strategy for the digitisation of the Swedish school system. This will be aimed at making sure the potential that digitisation represents for school development and development of the tutoring is fully exploited. In the last few years the possibility of remote education in some subjects in compulsory and upper secondary education has been introduced in the Education Act and the National Agency for Education has also been tasked with conducting a learning project concerning remote education. It should also be noted that the longstanding and well-known virtual school Sofia Distans³⁵⁶ is a municipal school that is entitled to state grants³⁵⁷.

One expert suggested that there were some interesting policy developments in terms of OER in the Folkbildning sector (Liberal Adult Education) at the Swedish National Council of Adult Education³⁵⁸. However, the advice from government officials is that the council is "autonomous" (like a university) and therefore not "an arm of government" – hence any such policies are not national or regional policies, and do not lie within the scope of this report.

³⁵⁴ <http://sulf.se/en/consultation-response/massive-open-online-courses-moocs-at-swedish-universities-20161/>

³⁵⁵ <http://www.opendoar.org/find.php?cID=204&title=Sweden>

³⁵⁶ <http://www.sofiadistans.nu>

³⁵⁷ For more detail watch <http://www.virtualschoolsandcolleges.info/presentation/sofia-distance-education-ronny-karlsson-catherina-sawarell-mai-wall/>

³⁵⁸ <http://www.eaea.org/en/membership/eaea-members/sweden-he-swedish-national-council-of-adult-education-ordinary-member.html>

Interviewee

Per Rosenblad, Ministry Secretary, Ministry of Education and Research, responsible for the compilation of the answers on the Sweden MOOC report

Interview results

Vision of open education in the country; role of the Ministry

In Sweden there is no specific national definition of open education, but initiatives exist that are relevant to the concept. In general terms the aim of the Swedish government is to make higher education accessible to everyone and make participation possible for all regardless of background, the kind of area in which a person lives, or any other personal circumstances. Widening participation and gender balance are priorities for the Swedish government.

Regarding Open Research, the government presented its position in the recently published research bill *Collaborating for Knowledge – for society’s challenges and strengthened competitiveness*, which unfortunately is not available in English.³⁵⁹ The position of the Swedish government is that all research results generated from publicly funded research should be made available and subject to open access.

Policy design and involved stakeholders

Given that the Swedish government understands the value of open education but because higher education in the country is free,³⁶⁰ there is no policy to support activities in this regard, but there is a strong commitment in relation to Open Science and Open Access.

Policy dimensions and areas of action

Sweden is committed to widening access and participation. Higher education institutions have a responsibility to ensure that societal diversity is reflected in higher education. In principle this can be regarded as the basic definition of widening access, although operative work on widening access may vary. Each person’s right to higher education and it should be an aim of democracy. In purely economic terms Sweden cannot afford to miss out on potentially excellent students. Also, diversity among students brings new perspectives and broader experiences, so heterogeneous student groups contribute to increased quality in education, as knowledge develops through the cross-fertilisation of different perspectives. Another aspect of quality is that students are better prepared to encounter social diversity after studying at an HEI that in itself constitutes a diverse environment.

Policy implementation and impact to date

Several Swedish higher education institutions are developing massive open online course (MOOCs), which is also viewed as a way of learning a new technology and developing teaching methods. In 2015 the Swedish Higher Education Authority was asked by the government to study the opportunities and obstacles related to the introduction of MOOCs

³⁵⁹ However, an English summary is available at <http://www.government.se/press-releases/2016/11/collaborating-for-knowledge--for-societys-challenges-and-strengthened-competitiveness/>

³⁶⁰ Noting that non-EU students incur “economic” fees – <http://www.studera.nu/startpage/higher-education-studies/higher-education-in-sweden/application-and-tuition-fees/>

in the country. The report was presented recently³⁶¹ and the government is now considering the proposals.

Key barriers and enablers during implementation

In relation to widening participation and recognition of foreign qualifications, the Swedish Council for Higher Education³⁶² (Universitets- och högskolerådet) is the public agency responsible for recognition of foreign qualifications. The Council evaluates foreign secondary education, post-secondary vocational education and foreign academic qualifications.

A person who has completed a foreign academic qualification with a degree can apply to have it evaluated by the council. The council will provide a general evaluation statement that can be used when applying for work. The statement helps the potential employer to understand what the person has studied by describing the degree and comparing it to an equivalent Swedish degree.

Lessons learned and suggestions for future open education policies

As Sweden does not have specific policy for open education, the interviewee **recommended that the EU should advise the governments and ministries about the development of policies in this field**, as the Ministry does not perceive open education as being an important movement in the country yet, even though some educators and institutions are already acting in this field without the involvement of the government.

However, the interviewee felt that the value of open education for widening participation is understood at governmental level.

³⁶¹ Summarised at <http://english.uka.se/higher-education-system/massive-open-online-courses-moocs.html>

³⁶² <https://www.uhr.se/en/start/>

3.28 United Kingdom (UK)

Open education in the country

As reflected in the various theoretical discussions on the subject, the UK is not a unitary state but it is not really a federal state either. This causes particular issues for the education sector, where in general terms the four “home nations” operate differently. England, Wales and Northern Ireland operate in relatively similar ways but very differently from Scotland – an internal split more significant than in any other Member State (even the federal or highly devolved ones) with the possible exception of Belgium.

OECD, EU, UNESCO and other agencies reporting on educational matters often group England, Wales and Northern Ireland together, but sometimes even they are treated separately³⁶³ – and some consolidated reports still try to treat the UK as a whole, with varying degrees³⁶⁴ of plausibility.

Whereas copyright legislation is controlled by the UK government, the education systems of three of the four home nations are run by the devolved administrations of Northern Ireland, Scotland and Wales, with the central government responsible just for England. So there are no national OER policies for the UK as a whole, and so far the home nations’ respective OER policies have been very different

Before the change of political parties at the helm of the national government in 2010, the central government was funding a major OER programme (2009-2012), largely for HE, through the Jisc/HEA OER Programme³⁶⁵, run jointly by Jisc³⁶⁶ – Joint Information Systems Committee and HEA³⁶⁷ – Higher Education Academy. In reality (and in line with politics) it was in fact mainly focused on England, with small amounts of spill-over to the other home nations.

In addition to the OER Programme, which had investment totalling about £5.4 million, Jisc funded a Content Programme³⁶⁸ between 2011 and 2013. This programme built on previous Jisc Digitisation and Content Programmes which addressed issues related to the creation and delivery of digital content in parallel with the skills and strategies needed within institutions to support digitisation activity, including nine projects focusing on the digitisation of OERs.

Within each of the four home nations, recent developments have been patchy.

In **England** (population 53 million), following the change of government in 2010, funding was withdrawn from national programmes for ICT support and development in schools and VET, and there was no national policy for ICT in education. In 2013, the situation changed slightly, with the establishment of ETAG³⁶⁹ (Education Technology Action Group) and FELTAG³⁷⁰ (Further Education Learning & Technology Action Group). FELTAG produced a report for the Department of Business, Innovation and Skills³⁷¹, to which the department responded; there are indications of movement towards a more positive ICT policy in

³⁶³ Such as in http://eacea.ec.europa.eu/education/eurydice/documents/facts_and_figures/fees_support.pdf

³⁶⁴ Such as <https://www.oecd.org/unitedkingdom/PISA-2015-United-Kingdom.pdf>

³⁶⁵ <https://www.jisc.ac.uk/rd/projects/open-education>

³⁶⁶ <https://www.jisc.ac.uk>

³⁶⁷ <https://www.heacademy.ac.uk>

³⁶⁸ http://www.webarchive.org.uk/wayback/archive/20140614023117/http://www.jisc.ac.uk/whatwedo/programmes/digitisation/content2011_2013.aspx

³⁶⁹ <http://etag.report>

³⁷⁰ <http://feltag.org.uk>

³⁷¹ <http://feltag.org.uk/wp-content/uploads/2012/01/FELTAG-REPORT-FINAL.pdf>

schools and further education, including online learning, but no mention of OER and no clear indication that there are policies in the pipeline.

Apart from university issues related to Brexit (research funding, staff recruitment, non-UK students etc.), the current concerns of the government in education are the new Higher Education Bill³⁷², which will set up the Teaching Excellence Framework, and related changes to quality and accreditation, including for private providers– sometimes now called “challenger institutions”.³⁷³ While there is some rhetoric on the need to reduce higher education costs, the TEF is seen by some commentators as a means for the universities to *increase* their fees.

There is steady progress with Open Access, but open education is hardly mentioned in policy circles. The OpenDOAR portal reports³⁷⁴ that there are 250 Open access repositories across the UK.

In **Scotland** (population 5.3 million³⁷⁵), a number of national curriculum and technology groups have come together *voluntarily* to form **Open Scotland**³⁷⁶, which produced an *Open Scotland Declaration*³⁷⁷ in the summer of 2013. This focuses significantly on developing policies to promote OER uptake and is supported by several government-funded organisations.

In 2014 a new initiative, Opening Educational Practices in Scotland (OEPS), was launched by the Scottish Funding Council³⁷⁸ and the project provided support for a revision of the Open Scotland Declaration and its launch as version 1.0. There is an interview report on this later in this section.

Wales (population 3 million) made rapid progress in open education until 2014, at which point the issue ceased to be a priority. Wales had had a national open education group, funded by HEFCW³⁷⁹ (the Welsh Funding Council), and in September 2013 the Welsh universities had committed themselves to open education policies and the promotion of OER via the *Wales Open Education Declaration of Intent*³⁸⁰.

This was the nearest to a formal government policy promoting OER in any of the home nations of the UK, and the Welsh government’s intention was that this would spread beyond higher education to encompass all education sectors.

However, there is not much current movement in the schools or further education (VET) fields – and in the HE field, months before the Brexit decision, the financial pressures on Wales had led to open education initiatives being de-funded and staff dismissed.

Northern Ireland, with a population of just 1.8 million, tends to follow England and Wales rather than Scotland in terms of education. There is little sign of open education activity there.

³⁷² <http://services.parliament.uk/bills/2016-17/highereducationandresearch.html>

³⁷³ <https://www.jisc.ac.uk/blog/are-challenger-institutions-really-gamechangers-for-the-future-of-higher-education-21-dec-2016>

³⁷⁴ <http://www.opendoar.org/find.php>

³⁷⁵ Almost exactly 1/10 of England’s population

³⁷⁶ <http://openscot.net>

³⁷⁷ <http://declaration.openscot.net>

³⁷⁸ <http://www.sfc.ac.uk>

³⁷⁹ <https://www.hefcw.ac.uk/home/home.aspx>

³⁸⁰ <http://www.oerwales.ac.uk/wp-content/uploads/2014/11/OER-Declaration-of-Intent-Sept-2013.pdf>

Policy/initiative overview	
Policy title	OEPS – Opening Educational Practices in Scotland
Policy URL	https://oepsotland.org
Description	<p>OEPS aims to facilitate best practice in open education in Scotland. It does so through the development of a peer support network and an online hub and awareness-raising activities.</p> <p>It aims to enhance the capacity and reputation of the Scottish tertiary education sector in developing publicly available online materials supported by high-quality pedagogy and learning technology.</p> <p>It provides an opportunity for the higher education sector in Scotland to build on its collaborative ethos and establish a support network for best practice and innovation in developing publicly available online resources.</p> <p>OEPS is a cross-sector project funded by the Scottish Funding Council and led by the Open University in Scotland.³⁸¹</p>
Institution	Scottish Funding Council
Policy date	2014
Status	Current
Language	English
Jurisdiction	Regional (Scotland)
E&T sector	Higher education
Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Strategy <input type="checkbox"/> Technology <input checked="" type="checkbox"/> Quality <input checked="" type="checkbox"/> Leadership

Interviewee

Pete Cannell, Project co-director, OEPS, Open University in Scotland

Interview results

Vision of open education in the country; role of the Ministry

Different stakeholders have different visions on open education. Universities are starting to engage, with a few having a specific policy on OER,³⁸² and trade unions and charities see access to education as an important issue. At governmental level there has been a lot of interest in OE, starting in 2013 with the Open Scotland declaration³⁸³, focusing on equity and on widening access to education in connection with MOOCs developments – but this interest has waned in the last two years, and now there is no coordinated policy on OE. For example the recent 2016 national policy on school education does not mention open education.³⁸⁴

³⁸¹ <http://www.open.ac.uk/scotland/> – the Open University is the leading provider of part-time education in Scotland, with around 15,000 students (in a 5,3 million population)

³⁸² See <http://www.ed.ac.uk/files/atoms/files/openeducationalresourcespolicy.pdf> and <http://www.gcu.ac.uk/media/gcalwebv2/library/content/pdffiles/GCU-Interim-Open-Educational-Resources-Policy-Approved.pdf>

³⁸³ <http://declaration.openscot.net>

³⁸⁴ <http://www.gov.scot/Topics/Education/Schools/NationalImprovementFramework>

Policy design and involved stakeholders

The primary reason for launching the policy **OEPS – Opening Educational Practices in Scotland** was to increase equity and social justice (big issues for the Scottish government) and to foster innovative practices underpinned by open education. The project is funded by the Scottish government and led by the Open University in Scotland, working with all universities and colleges in the country, plus the informal education sector.

Policy dimensions and areas of action

OEPS aims to produce evidence on the impact of open educational practices and support collaboration between different partners including formal and informal educational institutions, with particular interest in organisations outside the higher education sector, through online collaborative work and workshops³⁸⁵.

The total funding is £1.3 million³⁸⁶ for three years, and the Open University Scotland is responsible for administering and distributing these funds. Through this policy the aim is to understand the current reality of OER and OEP, and gauge their future potential; to identify the barriers that prevent access to education for all, as well as the pedagogical issues that underpin the adoption of OEP; and also to uncover the tensions between culture and individuals, and the drivers for OER at institutional level with regard to teaching and research excellence and outreach.

Policy implementation and impact to date

The original objectives of the policy have been met: quantifiable objectives have been assessed and the results presented as reports. However, the achievement of aims such as changing culture and practice is more difficult to demonstrate. Nonetheless, thanks to the policy, several Scottish organisations are now implementing OEP for themselves³⁸⁷; for example it was reported that the University of the West of Scotland is now working on collaborative curriculum development using OER, and the University of the Highlands and the Islands are increasing their adoption of OER and OEP.

The project has had an important impact in creating partnerships among formal institutions and between formal and informal ones, also through the use of the OpenLearnWorks³⁸⁸ platform, with collaboratively designed OER among different HEIs.

Key barriers and enablers during implementation

One difficulty mentioned by the interviewee is that institutional staff seem not to fully understand what it means to systematically adopt Open Educational Practices. To try to overcome this, the policy has been putting a lot of effort into explaining what open education can do, through forums, events, etc. The project has been looking for partners wanting to start other OEP projects, and has been offering training via learning design workshops and through the collaborative platform OpenLearnWorks. The situation is similar in the informal learning sector, where it is also the case that more effort needs to be made to promote and support understanding and development of OEP.

³⁸⁵ <https://www.uhi.ac.uk/en/learning-and-teaching-academy/events/thinking-about-open-2>

³⁸⁶ About €1,5 million at current exchange rates

³⁸⁷ <http://jime.open.ac.uk/articles/10.5334/jime.412>

³⁸⁸ <http://www.open.edu/openlearnworks>

Relation between policy and EU-level developments

The policy-coordinating team (which the interviewee co-directs) is following what is going on at the EU level; they have studied how developments in Scotland are connected with and reflect developments internationally, but with a focus on social justice and on widening participation.

Lessons learned and suggestions for future open education policies

The interviewee suggested that the EU, as well as other Member States, should focus on promoting diverse and engaging models of Open Educational Practices, both at formal and non-formal education levels, propagating a wide range of OEP and models. He said the focus must not be restricted to promoting and delivering Open Education via MOOCs exclusively.

Policy/initiative overview	
Policy title	Higher Education Funding Council for England, national OER programmes
Policy URL	https://oersynth.pbworks.com/w/page/60338879/HEFCE-OER-Review-Final-Report
Description of the policy	In 2008 the Jisc <i>Good Intentions</i> report ³⁸⁹ concluded that the landscape around learning materials had changed sufficiently to support a range of sustainable models for sharing. In 2009 the Higher Education Funding Council for England funded four years of development. UKOER1 ³⁹⁰ – April 2009 to April 2010 – supported 29 pilot projects and activities around the open release of learning resources. UKOER2 ³⁹¹ – August 2010 to August 2011 – funded 36 research and technical projects examining the release, discovery and use of OER by academics. UKOER3 ³⁹² – October 2011 to October 2012 – supported the continued application of OER and related activity and processes across the HE and VET sector via 13 projects funded to investigate the use of OER approaches to work towards particular strategic, policy and societal goals. Jisc funded a Content Programme ³⁹³ between 2011 and 2013 which addressed issues related to the creation and delivery of digital content in parallel with the skills and strategies needed within institutions to support digitisation activity. It funded 9 projects focusing on digitising and openly released archival and special collections of primary sources, aiming to embed such resources within teaching and learning ³⁹⁴ .
Policy institution	Higher Education Funding Council for England
Policy date	2009-13
Policy status	Closed
Language	English
Policy jurisdiction	Regional (England)
E&T sectors	Higher education, VET (in later phases)

³⁸⁹ <http://repository.jisc.ac.uk/265/1/goodintentionspublic.pdf>

³⁹⁰ <http://webarchive.nationalarchives.gov.uk/20140702233839/http://www.jisc.ac.uk/whatwedo/programmes/learning/oer.aspx>

³⁹¹ <https://www.webarchive.org.uk/wayback/archive/20140614005411/http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2>

³⁹² <https://openeducationalresources.pbworks.com/w/page/60792010/OER%20Programme%20Phase%203>

³⁹³ https://www.webarchive.org.uk/wayback/archive/20140614023117/http://www.jisc.ac.uk/whatwedo/programmes/digitisation/content2011_2013.aspx

³⁹⁴ For a recent evaluation report by Littlejohn et al see "Motives and tensions in the release of Open Educational Resources: the JISC UKOER programme", *AJET* Vol 32, No 4 (2016), <https://ajet.org.au/index.php/AJET/article/view/2258>

Dimension of impact	<p>Core dimensions</p> <ul style="list-style-type: none"> <input type="checkbox"/> Access <input checked="" type="checkbox"/> Content <input checked="" type="checkbox"/> Pedagogy <input type="checkbox"/> Recognition <input checked="" type="checkbox"/> Collaboration <input type="checkbox"/> Research <p>Transversal dimensions</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Strategy <input checked="" type="checkbox"/> Technology <input type="checkbox"/> Quality <input type="checkbox"/> Leadership
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Interviewee

David Kernohan, Senior co-design manager, Jisc

Interview results

Vision of open education in the country; role of the Ministry

At government level there is an understanding of open education, but despite the support to Open Access and Open Science there has been very little support for open education. Also, the UK government is not currently funding activities, initiatives or projects, although it is still funding the Joint Information Systems Committee (Jisc) and the Higher Education Academy (HEA), and those institutions provide some support for the development and promotion of open education.

Policy design and involved stakeholders

The main actors are the Higher Education Funding Council for England (HEFCE), the Joint Information Systems Committee (Jisc) and UK Higher Education Academy (HEA). As stated in their report: "The activities and impact of the HEFCE-funded initiatives must be considered in relation to wider political, economic, social and technological contexts and questions have emerged around how far open educational practice challenges or supports notions of traditional higher education."

Policy dimensions and areas of action

The dimensions of the **national OER programmes promoted by the Higher Education Funding Council for England** can be understood as follows: Phase 1 – Large-scale release of OER, Phase 2 – Extending OER release, OER use and discovery and Phase 3 – Strategic, policy and societal goals for OER and open approaches.

The HEFCE OER review framework consisted of four focus areas: Culture and practice; Releasing and using OER; Processes for sustainability; and Benefits and impact.

Policy implementation and impact to date

Despite the success of these programmes promoting open education, their funds were not extended. However, a large and strong community was built, and this can be considered the programmes' greatest achievement and impact, as the open education community kept working together and developing initiatives. Now, for example, there are initiatives aimed at developing open textbooks in response to the high costs of education in England, and

the UK community continues to organise international conferences on the theme of open education³⁹⁵ as there is great interest in developing projects and research on open education-related themes and in publishing and sharing the subsequent outcomes.

Key barriers and enablers during implementation

The main barriers presented were the lack or scarcity of funding at national level. There appeared to be little institutional support in some instances: for example some institutions had funds only to support and develop MOOCs, not for any other open education initiative.

The enablers of open education in UK are the members of the OE community, who promote, advocate and also seek funding at the national and international level, aim to develop OE initiatives and projects.

Relation between policy and EU-level developments

The national OER programmes were related to and aligned with EU developments on open education, but more funds are necessary in order to allow these programmes to progress and to adapt and adopt policies and innovative projects from other European countries. For example funds are needed to support the development of Open Textbooks, as HE fees in the UK are very high and the price of textbooks increases the overall cost of education.³⁹⁶

Lessons learned and suggestions for future open education policies

According to the interviewee, the most interesting result of the policy is the development of a strong community of open education practitioners and researchers who are continuing to support and develop open education despite the lack of funding.

As for **suggestions** for future open education policies, the interviewee recommended first and foremost that the policies should be carefully thought out. He also said the EU should provide an online collaborative space in which open education practitioners can experiment and share good practices.

The interviewee also suggested that efforts should **not** be focused on building repositories based on metrics. This is because users' data on repositories tend to receive too much attention to the detriment of other, more important elements. A repository can face the risk of closure when their usage metrics seem to low.

³⁹⁵ The next being OER17 in April 2017 in London – <https://oer17.oerconf.org>

³⁹⁶ As the *SharedOER* final report notes (footnote 50): "A simple calculation based on the reported cost of textbooks (<http://www.theatlantic.com/business/archive/2013/01/why-are-college-textbooks-so-absurdlyexpensive/266801/>) and the out-of-state fee, a proxy for true cost (<http://www.topuniversities.com/studentinfo/student-finance/how-much-does-it-cost-study-us>) suggests a figure of just under 3% in the US" – <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC94956/jrc94956.pdf> p. 14

4 Analysis

4.1 Introduction

This chapter provides an analysis of the interviews, correlated with the Member State narratives, which incorporate and link to a large amount of additional information collected through desk research.

A list of the limitations of the study will be presented, followed by an overview of the policies in which they will be categorised as follows:

- within the four main typologies where open education activities were found³⁹⁷
- in connection with the ten dimensions of the JRC's OpenEdu Framework

The impact to date of open education policies and initiatives in each Member State will then be presented, followed by a compilation of the main barriers and enablers reported by the interviewees and by a brief analysis of the relation between the identified policies and the open education developments at the EU level.

4.2 Limitations of the Study

Caveats include the following:

- The desk research parts of the country reports are brief documents: although they are normally based directly on input from country experts, only a few experts per country could be consulted in the time available;
- The interview reports are also brief documents, and many nuances are not documented or could not be probed in a conversation typically lasting only one hour with a person not previously known to the team;
- On the whole, statements by ministries are taken at face value, though the researchers looked for URLs to confirm each statement made about specific policies, projects and institutions;
- The research outcomes presented in the study are not intended to be exhaustive about the state-of-the-art of open education across Member States – in particular the research team did not run an extensive general analysis of national policies for education (which most Member States have) or national policies for ICT in education (which a few Member States now have).

4.3 Emerging approaches to policy for opening up education

Based on the study results, there currently seem to be four types of policy aimed at opening up education across Europe:

³⁹⁷ To see how the selected policies fit into these categories, please see Table 1 of the present report.

- **Policies** focusing specifically on opening up education through the promotion of **OER and OEP** (e.g. Germany, Scotland, Netherlands, UK);
- **Policies** relating to general **ICT for learning** with some open education component (e.g. Cyprus, Ireland, Italy, Lithuania, Poland);
- Comprehensive **educational policies and strategies** which embed some open education component (e.g. Croatia, Czech Republic, Estonia);
- Policies from **National Open Government Plans** with some open education component (e.g. Greece, Romania, Slovakia).

4.4 Correspondence between policies and the OpenEdu Framework

The identified policies have been analysed in accordance with the dimensions of the OpenEdu framework produced by the JRC³⁹⁸, as in the table below. The fact that the great majority of the policies target a number of openness dimensions, including in many cases some of the transversal dimensions identified by JRC in their research, indicates that the understanding of open education on the part of most European policymakers – though not all them – goes beyond OER and open content.

Policy	MS	Core dimensions						Transversal dimensions			
		Access	Content	Pedagogy	Recognition	Collaboration	Research	Stran check consiotegy	Technology	Quality	Leadership
Strategy of Education, Science and Technology	HR					X		X		X	
Digital Strategy for Cyprus (Measure 16 eEducation)	CY	X	X	X				X	X		
Strategy for Education Policy of the Czech Republic 2020	CZ	X	X	X					X		
Estonian Lifelong Learning Strategy 2020	EE	X	X				X		X	X	
FUN MOOC	FR	X	X	X	X	X	X	X	X	X	X
PIX	FR	X	X	X		X	X	X	X	X	X
Open Universities 2011-2020	DE	X	X	X		X		X			
OERinfo	DE	X	X	X		X				X	X
National Action Plan on Open Government 2016-2018	EL	X	X							X	
National Forum for the Enhancement of T&L in HE	IE		X	X		X	X	X	X	X	X
National Digital School Plan	IT	X	X	X		X					X

Policy	MS	Core dimensions						Transversal dimensions			
		Access	Content	Pedagogy	Recognition	Collaboration	Research	Stran check consiotegy	Technology	Quality	Leadership

³⁹⁸ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening up Education: A Support Framework for Higher Education Institutions*. JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408

Policy	MS	Access	Content	Pedagogy	Recognition	Collaboration	Research	Strategy	Technology	Quality	Leadership
Activity Plan for ICT in General and Vocational Education	LT	X	X	X	X				X	X	
National Lifelong Learning Strategy 2014-2020	MT	X	X		X			X	X		
Higher Education 2025, The value of knowledge	NL	X	X	X	X	X	X	X		X	X
Programme for Knowledge Education Development	PL		X								
Tell us a story	PT	X	X	X		X		X	X		X
National Open Government Plan (VS Library and OER)	RO	X	X					X			
Open Government Partnership Action Plan	SK	X	X			X					
Opening Up Slovenia	SI	X	X	X	X	X	X	X	X	X	X
Digital School Culture Plan	ES	X	X	X	X	X	X	X	X	X	X
HE Funding Council, National OER programmes England	UK	X	X			X			X	X	
Opening Educational Practices in Scotland	UK	X	X	X		X		X		X	

The collaboration dimension was perceived as being very important in a number of interviews (e.g. Finland, Italy, Romania, Scotland), which shows the importance policymakers are attributing to the role of stakeholders – and collaboration with them – when working on initiatives aiming at opening up education.

4.5 Policy implementation and impact to date

In general terms, most of the policies are too new to have had much evidence-based impact. In addition, some countries like Germany and the Netherlands already had substantial activity before there was a relevant policy in place, and it is difficult to disentangle the effect of the policy from the general volume of activities already running. Also, several interviewees seemed rather vague about funding and timescales.

At an overall EU-wide level, data from many reports³⁹⁹ and also the findings from the interviews show that in France, Slovenia, Spain and the UK there are several open educational initiatives, and that in all these countries this is mainly due to policy initiatives, though not exclusively to national/regional policies.⁴⁰⁰ Germany had developed a reasonable level of MOOCs and a large amount of OER in advance of any policies, and with the recent investment in digital education and OER it is likely to become a leader in the EU. Spain and the Netherlands also had substantial amounts of open education activities prior

³⁹⁹ Such as <http://www.dtransform.eu/business-models-for-opening-up-education-report-available>

⁴⁰⁰ Note in particular the effect of FutureLearn, a policy from a hegemonic provider, discreetly facilitated by a Minister, but with no national funding or policy framework. The role of major non-state actors is out of scope for this study but needs to be considered in order to understand the overall situation in certain countries. Such actors include the Ufi Trust in UK and Folkbildningsrådet in Sweden. The role of international NGOs such as the Soros Foundation and Creative Commons also needs consideration.

to any policy. In contrast, the Scandinavian countries do not have policies specifically aiming to opening up education – probably due to their long tradition of distance and flexible learning⁴⁰¹, while many of the new Member States so far have little open education activity. Italy occupies an intermediate position with several MOOCs and OER initiatives, most of which predate any specific policies.

Below are some highlights of this research, and some issues that arose:

Member States without policy-driven activity

Seven countries out of 28 – **Austria, Bulgaria, Denmark, Finland, Hungary, Latvia** and **Sweden** – appear to have no current active policies containing open education aspects (in the meaning utilised in the present study – see the Introduction), or at least (such as the efit21 policy for Austria or the K-MOOC policy for Hungary) none that we could surface interviewees for.

Austria, Finland and **Hungary** are considering proposals on possible policies, as is **Sweden**, once the government there decides on its response to the MOOCs report.

Member States with policy-driven activity

Croatia includes the “development of Open Educational Resources” in its policy but there are no details in the corresponding policy documents and in the interview it was not possible to gain an understanding of the detailed planning on OER.

Cyprus has a general ICT in education strategy but the interviews revealed only some tactical interventions (one under an EU-funded project and one a collaboration largely driven by Greece), and no strategic open education activity. Yet in the field of distance education Cyprus is increasingly active, with its own Open University and also the private University of Nicosia having an active online learning programme (targeting Africa) delivered via a joint agreement with a Welsh university.

The **Czech Republic** also has a general ICT in education strategy as a subset of its overall education policy, but in contrast to Cyprus it appears to be taking forward existing open education activity (e.g. *Metodicky*) and making some decisions, e.g. on Creative Commons. However, the interview implied that progress was slow and constrained by capacity issues in the Ministry.

Estonia has a currently active Lifelong Learning Strategy that mentions Open Educational Resources, continues support for platforms for sharing content (e.g. among teachers), and focuses on training teachers. However, there was no specific information on the impact of its five-year €60 million programme, except that “teachers are being trained in digital competences across the country and online platforms have been built to support the sharing and creation of resources, while guidance and support is being provided to teachers and students for the effective use of these platforms”.

Germany is highly active in OER and quite active in MOOCs, despite not having had any national or regional policies specific to open education until very recently. There is now a *Mainstreaming OER* programme, based on thorough prior research and consultation; and also a continuation of their earlier *Open universities* initiative that has now branched into MOOCs.

⁴⁰¹ The relatively close (but not perfect) correlation between the level of distance education activity (open education in the traditional “Open University” or “Open and Distance Learning” sense) and open education activity in a given Member State is not in scope for this study.

Greece is one of the three countries using the Open Government Programme mechanism to drive through its open education plans, via “Commitment 20”. This is building on a number of existing developments including Open Academic Lessons and the curriculum repository Photodentro.

Ireland has an active ICT in higher education policy and funding mechanism, which covers OER but apparently with more emphasis on open access issues. The country was starting from a rather low level with regard to the use of ICT in higher education, but is catching up fast.

Italy has made a strong start with its “National Digital School Plan” but notes that long-term effects cannot yet be demonstrated; in parallel a number of OER and MOOC-related activities have been started without any direct public policy support.

Lithuania has an ICT in education policy, which appears largely focused on schools and VET. They identified a number of barriers including a need for greater EU support.

Luxembourg has an active programme for ICT in schools, which includes open education and OER aspects.

The Netherlands has a new (2015) policy to modernise higher education with a strong core of OER. However, some of the projects it references had commenced before the policy was implemented (TU Delft has been active in MOOCs for some years) so cannot be regarded as policy successes. Nevertheless it is expected that in terms of open education the policy will bring the Netherlands up to the level of nearby countries (France, UK, Germany) in a few years.

Poland has a digital schools programme but the policy chosen to focus upon was the Programme for Knowledge Education Development, since this explicitly states that all resources funded by the European Structural Fund should be openly licensed. The programme is very thorough and impressively documented in its general forward-looking aspects but the specific open education aims and concrete returns are not clearly described, and much of the programme could be regarded as an effort to “catch up” in areas of education reform – much needed but not specific to open education.

Romania is the second of the three countries using the Open Government Programme mechanism to drive through its open education plans. The aims of the Virtual Library are impressive but work on this project has only just started.

Slovakia is the third such country: a whole chapter of the OGP Action Plan is devoted to OER. However, the country is starting from a very low base in terms of OER and notes that implementation is still in progress.

The **UK** does not have and cannot have a unified approach to education policy in any sector, although for ICT there are some “federal” agencies such as Jisc that are working to provide a level of uniformity for higher education at least. In Scotland the OEPS project cites benefits at two universities but there are 19 universities in Scotland and no large or high-ranking ones are mentioned as having changed as a consequence of the OEPS project (the University of Edinburgh has been active in MOOCs and OER for several years, as has the Open University in Scotland, the project lead). In England the HEFCE-funded OER programmes have left a strong legacy but there is no current policy fostering OER or MOOCs in higher education, or indeed in any other sector of education (the FutureLearn MOOCs consortium is purely an initiative of the UK Open University, with no government funding or support).

4.6 Key barriers and enablers during implementation

Understanding the main barriers that can prevent open education policies (or, for countries where there is no policy, open education initiatives) from fully succeeding is important both for the policymakers who actually running the policies and for planning future initiatives aimed at opening up education. At the same time, spotting the potential enablers of open education is fundamental, since these can be strengthened through policy actions and therefore act as multipliers for the success of future policies and initiatives.

Barriers

The main barriers identified by the interviewees can be grouped as follows:

- **Low ICT-readiness:** lack of ICT devices for schools, students and teachers (EE); poor access to internet, including lack of Wi-Fi and poor connectivity – especially in rural areas (EE)
- **Broader institutional issues:** “The slow bureaucratic processes in the Ministry” (IT); or – in federal or semi-federal countries – tensions between the central government and the different states “which led to long and complicated negotiations on different aspects of the policy” (DE); or the general economic downturn (CY)
- **Low policy priority assigned to open education:** lack of policy (DK); “lack of strategic support for the development and promotion of open education” (LV); “lack of financial support” (LV); and lack of a dedicated team “to promote, support and advocate for Open and Digital Education at the ministerial level, as such a team would enable policy implementation in a more effective way” (CZ)
- **Fragmentation of initiatives:** “there are quite a few open education initiatives in Austrian universities that work in their context, but there is nothing that works on a national scale” (AT); “independent institutions which want to work together (*on open educational projects*) have to modify and harmonise their timelines and priorities: to change this takes a lot of time and commitment by the single institutions” (FI); “management processes related to students of other universities should be further simplified in terms of information availability, interoperability and credits recognition” (FI)
- **Lack of institutional support:** educators receive little support in implementing open education in their institutions, despite the efforts to finance projects in open education (NL); “some institutions had funds only to support and develop MOOCs, but any other open education initiative was neither funded nor supported” (UK)
- In the university sector, **primacy of research over teaching:** “One of the main difficulties observed is the treatment perceived by academics and the government regarding teaching and learning, which is seen as a second-class element in contrast with research in higher education, as academics tend to be assessed and promoted because of the quality of their research instead of their teaching excellence” (IE)
- **Resistance to cultural change:** a high degree of cultural change is required (CY), connected with the “reluctance of certain groups of educators in embracing change and adopting a digital culture for teaching and learning” (DK)

and with “reluctance among academics towards sharing the resources they produce” (HR). In even more detail, “a significant barrier is the still dominant traditional approach to teaching and learning: it was noted that the preferred teaching materials in the country are printed textbooks and that there is reluctance among teachers to adopt and embrace new digital technologies” (EE). Even in an country advanced in ICT terms, there is “resistance on the part of educators to changing their practices and getting training to innovate in the classroom” (NL), while “open licensing of teaching materials is a challenge since the norm is that content belongs to the teachers” (FI). Cultural change also affects educational leaders: “there is reluctance from some school principals in adopting new technologies and innovative teaching methods, as they prefer some rather traditional approaches” (LT); “Committed leaders must be found at all levels and sectors: a push from above is not enough, one needs leaders and champions to use the data and the resources openly produced” (RO)

- **Lack of awareness about open education**, “and about OER, copyright and open licenses” (HR); “institutional staff don’t seem to fully understand what it means to systematically adopt Open Educational Practices” (UK/Scotland) and have a “limited understanding of the benefits of producing learning content in the form of OER” (DE)
- **Low open education capacity within the teaching population**, connected with “the need to create effective training paths that can cope with the scale of the training demand, since there are not enough experts in these fields” (IT), and with the time needed to build teachers’ competences so they can work effectively in digital ways – estimated as “at least two years” (IT). “Training of trainers would be needed” (FI), “and to do so, better institutional and inter-institutional coordination would help, since it is not always clear who is in charge of supporting professors when it comes to OER and open education” (AT); and “most teachers and other staff lack the skills to work with open methods and resources” (RO)
- **Absence of open licenses recognition**, such as the lack of recognition of Creative Commons licenses, or equivalent (LV), connected with resistance on the part of publishers, “which are seeing a change in the procurement mechanisms that may see their business model change radically” (SK)

Enablers

The main enablers for open education to thrive, in the eyes of the interviewees, are as follows:

- **Clear policy priority assigned to open education**: having a clear policy framework (CY, DE), with government support and promotion (EE); implementing the National Reform Programme (CY) and “programmes democratising access to higher education” (DE), with a focus on “new and innovative approaches to open education” (NL). The involvement of the private sector was mentioned as an important policy partner “offering funds and/or services” (IT)
- **Awareness-raising on open education, targeting leaders and educators**: The key enabler is to make concerted efforts to change the attitude of the HE leadership, in particular changing the “rigid academic thinking” (HU).

Furthermore, “reaching out to educators within their institutions through the organisation of events and capacity-building moments” (IE), and ensuring “the political promotion of the open education agenda within the country, through endorsement by the Minister and other politicians in their public appearances” (NL). What this requires is “putting a lot of effort into explaining to everyone what open education can do, through forums, events, etc.” (UK/Scotland). “It will be important to make clear to teachers and managers that the approach is not only about OER and infrastructure but also about a new way of looking at teaching and learning” (DE)

- **Capacity-building in open education for educators and other stakeholders:** “training and guidance for teachers” (EE), “training and guidance across the educational sector benefitting students” (EE), “training and support for parents towards understanding how their children will use technologies” (EE), “proper and continuous training of the trainers across all educational levels” (GR). Educational leaders should also be trained: “leading them to understand the changing paradigm in the educational processes, to support them in gradually overcoming the initial reluctance of the teachers” (LT)
- **Empowering educators:** Self-organisation of teachers (IT); “giving a voice to the teachers, changing the perception of the value of teaching and learning” (IE)
- **Broader issues:** “the economic crisis can also be perceived as an enabler, as the sharing of resources was useful to support teachers and students when other means were not available, so open education was widely promoted as a means to overcome economic factors that could negatively affect education” (CY)
- **Online platforms** were mentioned only once as enablers, as tools “to share open educational resources” (EE)
- **Grassroots communities:** One interviewee said that the main enablers for open education are “the members of the OE community, which, despite not having enough funds, promote, advocate and seek for funds at national and international to develop OE initiatives and projects and support other communities of practice at national and international level to develop open education in their own contexts” (UK).

4.7 Relation between policy and EU-level developments

The interviewees from most Member States made reference to EU participation and if their countries had open education policies in place they all considered that those policies are in line with those of the EU.

Among those who did make reference to a specific policy in their country, there appears to be a good understanding of the potential of open education to increase equity and access to education. This was the case with Austria, Cyprus, Denmark (especially with regard to Open Science), Germany (very positively and thoroughly), Italy (at least for schools), Netherlands, and the UK/Scotland.

The **Czech Republic** stated that Czech policies “are in line with the recommendations of the EU *as far as promoting the development of innovative and digital skills*, including open education” are concerned (our italics).

Estonia seemed to limit this to “the general aim of developing an open and digital culture among educators”.

Finland mentioned specifically “the ET2020 Expert Working Groups, *even if the openness part of the work has not really started*” (our italics).

Ireland took as its focus “aiming at achieving teaching and learning excellence, [and] producing good practices for academic development that can be shared internationally at European level”.

Latvia took as its focus the “aim of widening participation in education and the reduction of social inequality towards developing a better and more skilled citizenship”.

Netherlands was keen to flow back its knowhow to Europe, saying “this policy can be a model that can be adapted for the development of further policies and agendas on open education by other European countries”.

Slovakia took an interesting standpoint, saying “The Open Government Partnership plan aligns with broader international agendas, and the Republic of Slovakia is pioneering on including open education in the commitments”.

However, even if most of the interviews stated that coherence exists between their national policy and EU policies in the field, few countries, with the notable exception of Italy, mentioned any of the specific key EU documents on open education, in particular the Communication *Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources*.

No commentary was offered, for example, on whether they felt Erasmus+ was delivering on the promises made in the Communication, or on any of the recommendations made in it, for example that of encouraging “the production, including through public procurement, of high-quality educational materials whose copyrights would belong to public authorities”. No interviewee mentioned the value of the JRC’s *Opening up Education: A Support Framework for Higher Education Institutions* or any of the other studies by JRC or by any other institution or project conducting research on open education policy.

It is hard to escape the conclusion that the Commission’s work in this area needs to be disseminated far more thoroughly, and that this would motivate Member States’ representatives to make more visible their activities. In the words of the Romanian interviewee: “What the EU is doing on open education should be more visible in Romania, and what Romania does in the field should be more visible in Europe.”

5 Suggestions by interviewees for Future Open Education Policies

In this section the various suggestions made by interviewees in the country reports are grouped in relation to the dimensions of the OpenEdu Framework, but extended so as to include the usual dimensions of EU action such as research, dissemination and funding. Some brief commentary is included.

5.1 Suggestions for the European Union

Justification for open education

The European Commission and Member States that are engaged in implementing open education mostly embed their open education actions (digital skills, repositories, etc.) within wider policies such as ICT for education (or a sector of education), lifelong learning, open government, digital nation, etc. Thus there has to be a justification of why open education is the answer to the policy questions being raised, or at least facilitates an effective response. This section is intended to provide precisely that justification.

UK.2	The EU should think carefully about the <i>reasons</i> behind developing open education policies.
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Standards for open education

A common understanding of open education at an European level is key:

SK.1	Open education should be introduced by the EU to the Member States using a common framework.
EL.1	The EU should enforce the standards on open education in every MS.

Raising awareness of open education

Suggestions such as the ones below are probably a more realistic alternative to those proposed above under "Standards".

LV.1	EU support, at a promotional level, is needed to ensure MS government and institutional policymakers are aware of open education.
CY.1	The EU should provide a means to share agendas and strategies in relation to lifelong learning, digital literacies and development around open education initiatives.
DE.4	It is important to keep talking and raising awareness about open education: the EU should help to keep the discussion alive in MS.
RO.1	Even for MS with established national agendas, receiving European recommendations and framework indicators would be very helpful, not only in open education but also in Open Access for research and Open Data – since that would further strengthen the efforts of national governments. <i>Therefore the EU should disseminate to all Member States, not only smaller or poorer ones.</i>

To pick up on earlier discussions, it is very important that the EU should explain clearly how "open education" in the modern EU sense draws upon and yet is different from "Open and Distance Learning", a phrase the EU has employed frequently⁴⁰² in the last 20 years. Finland and Denmark in particular expressed concerns on this issue, and it is likely these would also be shared to some extent in Germany and Sweden.

⁴⁰² As one example among hundreds: <http://ec.europa.eu/agriculture/rur/leader2/rural-en/euro/p4-2-6.pdf>, 2001

Funding and support for open education

It is not surprising that Member States are keen to request more funding, especially in the case of countries accustomed to receiving substantial Structural Funds, but it is still noteworthy. Those MS that have been receiving project funding have noticed some discontinuity between the Lifelong Learning Programme and Erasmus+, along with a certain degree of incoherence as a result of the increased number of projects run from the national agencies.

DE.2	There should be more EU funding lines for OER and Open Education within European programmes such as Erasmus+: participation in EU projects is currently very competitive and in some countries institutions tend to prefer to apply for national funding.
LV.1	Support from the EU, <i>financially</i> , is needed to ensure that MS institutional policymakers are aware of open education.
LV.2	The EU should provide funds to initiate and open discussions and promote exploratory projects in countries where open education is not yet being considered, and provide <i>action plans</i> – not just recommendations and policies – with guidelines and <i>exchanges of expertise with clear goals and targets</i> .
LT.2	The EU should provide a library of Open Source Software that could be translated for sharing and creating content, as for countries with lesser-spoken languages it is expensive to purchase software because its translation is costly (or, worse, there is no translation available).
SK.3	The EU should provide financial mechanisms to create national repositories for OER.
UK.3	The EU should not focus too much on repositories because metrics and data of usage tend to receive too much attention, to the detriment of other, more important elements that surround them, therefore, these risk closure when metrics of usage seem too low.
CZ.1	The EU should further develop the resources developed by EU stakeholders that define and clarify open education and its associated concepts. (In fact, even if the core principles are in place, the concept has not yet been widely disseminated – and therefore even when in principle aspects of openness are present in policies and projects, these are not clearly stated and not easily identifiable in official documents.)
EL.2	The EU should also provide multilingual good practices for all MS.
RO.2	In a Member State where the open education community is quite small, with people knowing how to use the tools but not so familiar with concepts, the EU should reach out to those practitioners who are not used to working with OER and OE, and mainstream these approaches.

Content and copyright

The most interesting points are perhaps i) the observation that the EU needs to monitor its rulings on project outputs to ensure that they do in fact appear at all, and that they are openly licensed; and ii) the point about procurement approaches (where much work has been done in the US, for example under Common Core).⁴⁰³

BG.1	It is key for the EU to take the lead in resolving the current copyright issues across Europe: it is sometimes quite difficult to share materials between countries because national legislations operate differently and there is no clear common ground in relation to the use of open licenses.
BG.2	All teaching and learning resources and research outcomes from the EU level (Erasmus+, H2020, etc.) must be openly published.
CZ.2	In order to ensure that openness-related good practices are known and shared, the EU should monitor all documentation, agendas, policies and their outcomes (such as guides, materials and resources) produced with EU funding to ensure they are published under open licenses.

⁴⁰³ http://poerup.referata.com/w/images/SharedOER_D2-1.pdf – a study for JRC/IPTS

CZ.3	The biggest help would be if the EU were to state that all work undertaken with EU funds has to have a CC BY license.
DE.3	Legal guidelines from the EU on OER and copyright would be useful for the discussion at the Member State level.
SK.4	The EU should develop with Member States a common framework in relation to the procurement of educational resources and textbooks commissioned to private publishers by the governments and funded with public funds or with European funds, to be published under open licenses.

Recognition of Prior Learning

An important area for further development:

NL.2	Since a high number of MOOCs have been produced by European HEIs as part of their open education remit, the EU should ensure that, after checking the quality of these online courses, students can take them as part of their elective modules, gaining credits upon completion (as with e-Erasmus), thereby making it possible to realise the full potential of these courses.
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Leadership

Focusing on leadership development projects in the digital education field⁴⁰⁴ :

SE.1	The EU should advise governments and ministries about the development of policies in this field.
SK.2	The EU should provide leadership, support and recommendations for education ministries.
HU.1	The EU should support processes to change the thinking of institutional leaders.

Pedagogy

These suggestions are in contrast to those under "Standards" above.

IE.1	The EU should promote excellence in teaching and learning, embedding its value in the policies they promote.
UK.1	The EU and Member States should focus on promoting diverse and engaging models of Open Educational Practices, both at formal and informal education levels, propagating a wide range of Open Educational Practices and models. The focus must not be only on promoting and delivering Open Education via MOOCs.

Digital skills for students

An important area for further development:

EE.1	The EU and Member States should consider, when developing digital skills in schools and when adopting the use of digital devices with children, the concerns of the parents. They should provide guidance and support to parents to ensure the effective use of these resources.
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Teacher-training

These are two recurring suggestions, but they do need to be re-stated for each programme.

EE.3	The EU should provide Member States not only with a framework of competences and skills, but guidance and resources to develop these skills, including by providing accredited MOOCs for teachers' training and more funds for the development of open education
LT.3	The EU should facilitate teachers' mobility, offer more Erasmus+ projects to enhance teachers' capabilities, and provide a platform for the sharing of good practices that can facilitate and motivate teachers' training.

⁴⁰⁴ <http://www.dtransform.eu> – part-funded by Erasmus+

Technology – experimental spaces

NL.1	To facilitate further developments in open education in Europe, the EU should create a space where policymakers can share good practices across countries and institutions.
UK.3	The EU should provide spaces for experimentation and innovation at a collaborative level – more specifically an online collaborative space for open education practitioners in which they can experiment and share good practices.

Refugees

This is a topical suggestion

BG.3	The EU should provide support for initiatives from EU countries to develop open educational platforms and resources for migrants and refugees, to help them learn the language of their host countries, facilitate their integration into society, and empower them to gain access to the formal education system.
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5.2 Suggestions for Member States

Research

The current level of knowledge regarding open education in the EU and other European countries is not high, though it is probably better than in other parts of the world with the possible exceptions of North America and Australasia.

AT.1	To properly establish a policy in the field of open education, a lot of desk research needs to be done <i>within</i> each Member State, since a lot of things are happening nationally and internationally. (Member States should not rely only on EU-level research to inform their decisions.) ⁴⁰⁵
AT.2	It is important for each Member State not only to look at “who is doing what” in their own country but also to consider who they need to bring together in order to facilitate decisions and understand the areas they have to focus on. ⁴⁰⁶

Awareness-raising

This complements the suggestions for the EU regarding raising awareness about open education.

RO.3	What each Member State does in the field should be made more visible at EU level.
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Content and copyright

These are also complementary to the suggestions about awareness-raising.

BG.2	Member States must ensure that teaching and learning resources and research outcomes are openly published if produced using public funds.
SK.4	Member States should work together and with the EU to develop a common framework in relation to the procurement of educational resources and textbooks commissioned to private publishers by the governments and funded with public funds or with European funds, to be published under open licenses.

⁴⁰⁵ Only a minority of Member States have carried out such studies (e.g. Sweden, Germany, the Netherlands and the UK): the others have done nothing, or rely on EU-level reports.

⁴⁰⁶ Member States have considerably different approaches to education and its funding and organisation

Recognition of Prior Learning

An important area for further action:

DE.1	There should be a system in which each Member State supports the Recognition of Prior Learning, thus making it possible to transform lifelong learning and vocational training systems, thereby increasing openness of and democratising access to higher education. ⁴⁰⁷
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Leadership

The list of suggestions below is the longest therefore showing the importance of leadership in the open education field⁴⁰⁸.

LT.1	Member States should involve school principals, and leaders of educational institution more generally, as they can be both an obstacle and an enabler in the implementation of policies and agendas.
IE.3	Policymakers in open education in Member States should always remember that if a policy is to be an agent of change, the engaged stakeholders will inevitably feel a certain degree of discomfort and must be guided through the process of embracing the proposed innovations.
IT.1	The approach of "living policy making" is probably the secret of the success of policy in a Member State: engaging and accompanying stakeholders in the implementation phase should actually be the core activity of the staff in charge of the policy; this needs a lot of support time but pays off in terms of impact and perceived relevance of the initiative.

Pedagogy

This suggestion is in a contrast to those under "Standards" above.

AT.3	Policymakers in Member States, especially federal ones, must be open to different visions when they are planning policies and measures involving stakeholders, and there has to be the necessary boldness to take something of a visionary approach.
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Digital skills for students

It was a surprising that there was not much more on this.

EE.2	Member States should realise that it is important to consider that digital skills are needed to prepare students for higher education. This can be an effective way to democratise and to widen access to universities.
EE.1	Member States should consider, when developing digital skills in schools and when adopting the use of digital devices with children, the concerns of the parents and provide them with guidance and support to ensure the resources are used effectively. ⁴⁰⁹

Collaboration

This fits the European approach better than might be the case in North America. However it might not fit the student-numbers-based or outcome-based funding models now common in Member States, where either there is competition for student fees or competition for Ministry student-based funding.

⁴⁰⁷ This is a topic worthy of its own full report. For an introduction see <http://eacea.ec.europa.eu/education/eurydice/documents/focus-on/152.pdf> and the discussion in the *ADOERUP* 2015 report to the European Parliament, [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU\(2015\)563397_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/563397/IPOL_STU(2015)563397_EN.pdf) sections 4.2.6 and 5.1

⁴⁰⁸ <http://www.dtransform.eu> – part-funded by Erasmus+

⁴⁰⁹ This has been taken very seriously in the UK when Becta was in charge of such policies – see e.g. <http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/Exploiting%20ICT.pdf> – but arguably less so now, though see <https://www.theguardian.com/teacher-network/teacher-blog/2014/jul/16/talking-to-parents-how-schools-using-social-media>

FI.1

Member States should, where appropriate, favour more collaboration among institutions: universities need to see the value of this cooperation and the Ministry needs to reward it, while also working on practical issues such as interoperability and information-sharing. This will help to “institutionalise” openness.

Organisation

Opinions may vary on the wisdom of this. It is almost routine for quality agencies, less so for other areas of activity.

IE.2

Member States should ensure that a policy should not be positioned within an institution (Ministry or HEIs) but be in an independent agency.

6 Suggestions for Further Research

One conclusion emerging when interviewing ministry representatives and experts is that in general there is very limited knowledge about the situation in other Member States in the fields of open education and ICT for learning. On the other hand, a number of barriers were quoted transversally by most of the interviewees, and therefore it is important to increase awareness of the solutions and policies that are in place in other Member States.

To achieve this, **each Member State should be studied in detail at least once every five years**. These studies should be designed to produce outcomes that could be easily understood by policymakers and that could quickly inform policy, for example by selecting the initiatives that have a proven impact and are potentially replicable in other countries and contexts.

To complement this, **key policy documents** that are not available in English (although many are, such as OGP plans and bids for Structural Funds) **should be translated into English**, possibly at no cost to the issuing country, so as to allow a wider understanding of the overall policy framework of Member States and to foster mutual understanding and benchmarking.

7 Conclusion

The study provides the first-ever EU-wide overview of the state of play with regard to policies aimed at opening up education.

For each Member State a brief overview is given of the open education situation in the country, followed by a description of one or at most two relevant key policies, and finally by an interview with one or two policymakers or policy-aware experts from the country, ideally chosen from the Ministry or national agency of most relevance. The country section is followed by a section of analysis and tabulations looking at the correspondence between policies and the OpenEdu framework⁴¹⁰, the policy implementation and impact to date, the key barriers and enablers during implementation, and the Relation between policy and the EU-level developments.

The **first conclusion** is that the road to open education implementation is a long one and that different MS are travelling along it at very different speeds and in different ways. A few are very advanced, several others have made good progress, and all have at least started the journey. In particular, actions aiming at opening up education can be found in **four typologies of policies**: a) policies focusing specifically on opening up education through the promotion of OER and OEP, b) policies relating to general ICT for learning with some open education component, c) comprehensive strategic educational policies with some open education component, and d) policies built up as National Open Government Plans with some open education component.

The **second conclusion** is that there is a key factor complicating the open education journeys: the surrounding education scenery is very different in the different MS, especially at university level (which was a key focus area for this study). Despite the welcome impact of the Bologna Process, there are very different rates of progress in areas such as digital skills, employability, increasing access, and the role of the private sector. Some MS are now having to deal with problems caused by earlier "solutions" that other MS are only just now considering – e.g. enhancing provision by using the private sector, fees for international students, or a functional credit-transfer system between institutions in a given MS.

The **third conclusion** is that in most MS the vision of open education is quite broad, going beyond OER and open content, but when this vision is applied to a policy, the approach towards open education is often still limited to OER. Specifically, most of the analysed policies and initiatives cover many of the dimensions from the OpenEdu Framework, with an important role for the collaboration dimension (this finding is corroborated by the fact that a good number of policies result from open stakeholders' consultations and provide quite an active role for stakeholders).

The **fourth conclusion** is that if the MS and the European Commission want further progress in the open education field – and in more uniform fashion – then the EC will have to take steps to both increase awareness on open education and increase the frequency of studies and peer-learning activities among MS. What emerged from the study is in fact that, due to the vagaries of project-based funding, rather a large number of MS had not looked at such issues for many years. A more systematic approach, such as some kind of

⁴¹⁰ Inamorato dos Santos, A., Punie, Y., Castaño-Muñoz, J. (2016) *Opening up Education: A Support Framework for Higher Education Institutions* (pp.24-30). JRC Science for Policy Report, EUR 27938 EN; doi:10.2791/293408

regular “open education census”, would be needed, preferably carried out in some form of MS-EU partnership.

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- UNESCO IITE (n.d.), Open Educational Resources publications, <http://iite.unesco.org/publications/themes/oer/>
- Other national documents and websites consulted can be found in the footnotes of the report.*

Annex 2. Acknowledgements

In addition to the interviewees cited at the beginning, the following people acted as advisors out of a much longer list of experts approached.

Country	Experts	Role and institution
Austria	Dr. Helga Posset	Staff member of the expert unit on higher education development, Federal Ministry for Science, Research and Economy
	Monika Moises	Blended Learning Consultant, Consultant to the Austrian Ministry of Education in International Project Management
	Wolfram Laaser	Instructional designer, Austrian School of Applied Studies; and former Academic Director, FernUniversität in Hagen
Bulgaria	Eliza Stefanova	Vice-rector of Information Activities, Academic Staff and Administration, Sofia University
Croatia	Sandra Kučina Softić	Assistant Director for Education and User Support University of Zagreb University Computing Centre SRCE
Cyprus	Anastasia Economou	Head of ICT Unit, the Ministry-level entity for ICT educational policies in schools
	Kevin Andrews	Chief Academic Officer, UNICAF, University of Nicosia Online
Czech Republic	Tamara Kovacova	Manager of the Open Education project, EDUin
Denmark	Line Bækgaard- Fuldmægtig	Danish Agency for Higher Education
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	Inga Kõue	Head of Content Development, Estonian Information Technology Foundation for Education
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	Jan Neumann	OER World Map, Hochschulbibliothekszentrum des Landes NRW
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Country	Experts	Role and institution
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	Kalomira Marouga	General Director, Strategic Planning and Design of Electronic Governance, Ministry of Education, Research and Religious Affairs
	Nikitas Kastis	Director, Mind2Innovate E-Learning Advisor
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	András Szűcs	Secretary General EDEN (European Distance and E-learning Network)
Ireland	Terry Maguire	Director, National Forum for the Enhancement of Teaching and Learning
	Brian Mulligan	Online Learning Research and Development, Institute of Technology Sligo Learning, Dublin City University
	Mark Brown	Professor and Director, National Institute for Digital
	Kevin O'Rourke	National Forum for the Enhancement of Teaching and Learning
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Latvia	Ilmārs Slaidiņš	Professor, Riga Technical University
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Luxembourg	Serge Linckels	Professor, Ministère de l'Éducation nationale, de l'Enfance et de la Jeunesse, Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques
	Gust Mees	ICT Course Instructor, Life-Long Learner and Blogger
	Anand Karat	President, Vretta
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Country	Experts	Role and institution
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	Carmen Holotescu	CEO Timsoft; and Professor, University "Ioan Slavici" Timisoara
	Gabriel Dima	Politehnica University of Bucharest
Slovakia	Iveta Ferčíková	Office of the Plenipotentiary for the Development of the Civil Society
Sweden	Per Rosenblad	Ministry Secretary, Ministry of Education and Research (responsible for the compilation of the answers on the Sweden MOOC report)
	Ebba Ossiannilsson	Consultant
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	David Kernohan	David Kernohan, Senior co-design manager, Jisc

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