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Policy advice for OER uptake in “colleges”

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Executive Summary

This report (Deliverable 4.2C) is developed as part of Work Package 4 of POERUP. It reviews EU policy developments in vocational education and training and developments in OER analysed by POERUP and other current projects. It takes account of information from the Open Education Experts Group, the Open Education 2030 series of workshops at IPTS, the launching of *Opening Up Education* in September 2013, the Bruges Communiqué on VET and subsequent working documents, together with comments made by experts on the first release.

Policy recommendations need to address the following key themes: the regulatory framework for resources which can support learning; improving the quality and transferability of vocational education and training across Member States; improving teacher, lecturer and trainer awareness and use of OER; promotion and advocacy of the benefits of OER; obtaining best value for money in VET.

The report makes recommendations in nine areas: communication and awareness raising; funding mechanisms; copyright and licensing issues ; reducing regulatory barriers; quality issues; teacher training and continuous professional development; certification and accreditation; infrastructure issues; further research into models for sustainable OER¹.

1 Communication and Awareness Raising

- Provide further evidence for its position with regards to the abundance or scarcity of appropriate resources currently available and communicate this message clearly. (C)
- Continue to promote the OER related initiatives it is currently funding and through them to promote the creation, sharing, use and reuse of high-quality OERs. Encourage and support Member States to promote these resources within the context of their sovereign educational aims and objectives. (C)
- Continue to promote to educational users (leaders, practitioners, students and guardians) the availability and accessibility of open resources created through its cultural sector programmes and encourage Member States to do likewise for their domestic cultural sector programmes, to make these available across the European Union and ensure that future programmes do not have unintended legal impairments to cross-border sharing. (C)

2. Funding mechanisms and resources

- Create an innovation fund for the development of online learning resources and assembling/ creating pathways to credentials. (C)
- Ensure that budgets for digital educational resources are flexible enough to support the development (and maintenance) of openly licensed materials. (M)
- Increase their scrutiny of the cost basis for VET delivery and consider the benefits of output-based funding for qualifications. (M)

¹ Recommendations to the Commission are indicated with (C); and to Member States with (M)

3. Copyright and Licensing

- Ensure that all educational materials supported by EU programmes are available to the public under open licenses. (C)
- Support the development of technological methods to provide more and standardised information on IPR to the users of digital educational content. (C)
- Mount a campaign both centrally and via the Member States to educate trainers and teachers delivering VET on IPR issues. (C,M)
- Ensure that all educational materials produced by VET teachers and trainers are available to the public under open licenses. (M)

4 Reducing regulatory barriers

- The Commission and related authorities developing VET should reduce any regulatory barriers against new non-study-time-based modes of provision. (C)
- Foster work into standardised syllabi EU-wide for technical and vocational training where this is appropriate for EU-wide action, and in the light of a successful outcome to such initiatives, foster the developments of common bases of OER material to support these standards, including relevant open repositories and (ideally jointly with publishers) open textbooks. (C)

5 Quality issues

- Establish a European quality assurance standard for OER content produced in Europe. (C)
- Where Member States have Quality Assurance or materials approval processes they should ensure that OER are allowed to be included on approved instructional materials lists. (M)
- Require (within reasonable expectation) OER to meet (disability) accessibility standards and ensure that accessibility is a central tenet of all OER programmes and initiatives. (M)
- Consider establishing and funding an OER evaluation and adoption panel. This panel should include lead teachers, content experts and accessibility experts. (M)
- Consider establishing a specialist OER function/post to undertake an in-country cost-benefit analysis to assess the potential savings (or otherwise) which might be achieved through implementing an OER strategy. (M)
- Quality agencies should consider the effects of these new modes on quality assurance and recognition and ensure that there is no implicit non-evidence-based bias against these new modes when accrediting institutions both public and private including for-profit (if relevant), accrediting programmes (if relevant) and assessing/inspecting institutions/programmes. (M)

6 Teacher training and continuous professional development

- Establish (and adequately fund) a professional development programme to help teachers and administrators understand the benefits and uses of OER and open licensing. This would support teacher / trainer / lecturer CPD on the creation, use and re-use of OER, with coverage of distance learning, MOOCs and other forms of open educational practice, and also IPR issues. (M)
- Develop incentive schemes for teachers and trainers engaged in online professional development of their pedagogic skills including online learning. (M)

7 Certification and accreditation

- Drive forward the development of EQF and encourage Europe-wide validation of learning acquired online. (C)
- Foster the development of transnational accrediting agencies and mutual recognition of accreditations across the EU. (C)
- Larger Member States should set up an Open Accrerator to accredit a range of studies which could lead to an undergraduate degree. In the first instance the Accrerator should focus on qualifications in the ISCED 5B area as this is most correlated with high-level skills for business and industry. (M)

8 Infrastructure issues

- Continue the focus on improving the ICT in education infrastructure in Member States (and levelling out disparities of access) so that they are able to exploit potential pedagogical and financial advantages of OER. (C, M)
- Where nations (or institutions) are providing digital devices they should ensure that all considerations have been taken to maximise the effectiveness (economically and pedagogically) of devices, support and strategy with regards to OER. (M)

9 Further research

- Develop its understanding of new modes of learning (including online, distance, OER and MOOCs) and how they impact quality assurance and recognition. (C)
- Fund research into the verifiable benefits of OER, with greater efforts to integrate such analyses with its ongoing research on distance learning, on-campus online learning, and pedagogy; and recommend the same to Member States. Future OER research should explicitly embrace Repositories, Federations, Portals and Tools and should consider work-based learning, both self-directed and trainer-led. (C,M)
- Foster research into the benefits of OER & sustainable business models, integrating this with its ongoing research on distance learning, on-campus online learning, and pedagogy; and recommend the same to Member States. (C)
- Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment. (C,M)

1 Introduction and the aims and objectives of this document

This is Deliverable 4.2C of Work Package 4 of POERUP. The Deliverable Title from the proposal is:

Policy advice for “colleges”

This has been adapted to include ‘OER uptake’ in the title.

The Work Package title is:

The role of national and international policies and strategy

The brief for the Deliverable states:

Policy-makers including regional, national and European decision-makers are the main target group for this Deliverable. We will provide these with valid, in-depth information on policy support of OER for the schools, the university and the college/other sectors. This will be based on the inventory, country reports (including mini-reports), the case studies and any existing reports on policy recommendations. (This last category is rather sparse but by late this year there may be more reports available.)

The policy advice will provide them with an in-depth understanding as to the importance of, amongst other factors, the policy context. In particular, an analysis of past policy-relevant successes (and any failures we can discover) will make a significant contribution towards better decision-making by this target group.

This report focuses on developing policies to promote the uptake of OER in further education and vocational training – ISCED level 4 – across the EU. Whilst further education “colleges” are a familiar sector in the educational landscape of the four UK home nations, they do not exist in the same form in almost all other EU countries and there are currently substantial differences in vocational training structures and standards between many EU countries. It therefore seems appropriate to focus on internationally accepted standards and avoid potential confusion arising from the variety of systems and structures.

Note that this deliverable is in fact a “sub-deliverable” of the overall Deliverable 4.2. Iterations of drafts and concordances between the sub-deliverables have been made, first to leverage good ideas from some into the others, and secondly to deal with edge effects.

2 Introduction to POERUP and the context for this document

2.1 About POERUP

POERUP is part funded by the European Commission’s Lifelong Learning Programme. The project, which builds on previous OER initiatives, such as OPAL², OLnet³ and OERtest⁴, produces country reports, case studies investigating the communities behind OER activities, and policy papers. The overall aim of POERUP is to develop policies to promote the uptake of OER, especially across the EU, in all main educational sectors. The project is led by a consortium of institutions and organisations in Europe and Canada. Partners are the University of Leicester (UK), Sero Consulting (UK), Open University of Netherlands (Netherlands), University of Lorraine (France), EDEN (UK/Hungary) and Athabasca University (Canada).

POERUP started in November 2011, and is funded to June 2014. The project has already created an inventory of more than 400 OER initiatives worldwide which are documented on the project wiki⁵. POERUP put substantial effort into understanding the state of play of OER in a range of countries, within the policy context and as part of the wider development of online learning in these countries. The project has already produced 11 country reports and 15 mini-reports, each covering individual countries including the Gulf States⁶. Each report provides an overview of the educational system, internet policy and provision, state of e-learning, copyright law, and major OER initiatives in that particular country.

2.2 The context for this document

The context for this set of policy recommendations is fourfold: POERUP research and analysis of notable existing OER initiatives; the current policy landscape for ICT in education across Europe; the opportunities for enhancing educational, economic and social progress through the expansion of OERs; and the barriers towards expansion. Key points from the POERUP research are summarised in section 2.3 below and the other three contextual elements are discussed in Chapter 3.

² <http://www.oer-quality.org/>

³ <http://www.olnet.org/>

⁴ <http://www.oer-europe.net/>

⁵ http://poerup.referata.com/wiki/Countries_with_OER_initiatives

⁶ <http://poerup.referata.com/wiki/Countries>

2.3 Notable OER initiatives

The inventory of more than 400 worldwide OER initiatives was refined into a list of 120 *notable* initiatives and these were categorised and analysed in POERUP D2.3 *Report on Comparative Analysis of Transversal OER Initiatives*.

Only one of these notable initiatives is focussed on ISCED level 4, the level of relevance for ‘colleges’: this is the Irish-based ALISON.

Although some initiatives cover more than one education sector (and several ISCED levels) and include resources for lifelong learning and adult education, the notable initiatives are concentrated in higher education (ISCED levels 5A and 5B) and in schools (ISCED levels 2 and 3).

Thus it is difficult to avoid the conclusion that OER for ISCED level 4 is a relatively undeveloped area. Some reasons as to why this is the case are explored in Chapter 3.

3 The policy contexts

Searching for Member States’ national policies on OER is rather akin to looking for needles in a haystack – particularly in the field of VET. POERUP has reviewed national policies for ICT in education⁷ and where these exist (which is not the case for all EU Member states) none of them specifically mentions OER, although a number use the word ‘open’ in a variety of contexts, largely connected to access, but not necessarily access to openly licensed resources and materials. There is no evidence of copyright being addressed in connection with openness.

The nearest approach to a national policy in the VET area can be found in the UK government’s response⁸ to recommendations made to BIS (Department of Business, Innovation & Skills) by FELTAG (the Further Education Learning Technology Action Group) in June 2014⁹. The report covers the whole area of digital technology in further education and, whilst concerned with opening up opportunities, does not specifically mention OER, but the Government response largely accepts the report’s recommendations and focuses on developing online learning in vocational education. Although the initiative (and subsequent policy proposals) come from the UK government, they will only apply to England.

This chapter examines the policy issues for OER uptake from four perspectives:

- General EU policy initiatives;
- EU initiatives on VET;
- Business models and barriers;
- The case for policy interventions.

The final section of the chapter describes the framework for policy interventions and groups our recommended interventions into eight areas.

3.1 The current policy landscape

Opening up Education was launched by the Commission at the end of September 2013 as its flagship initiative to enhance education and skills development through new technologies. The ‘Roadmap’¹⁰ for this initiative has significant implications for policy development for increasing the uptake of OER at all ISCED levels, including level 4. The ‘Roadmap’ is intended to address a range of problems:

⁷ D4.1 Overview of European and International policies relevant for the uptake of OER

⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/320242/bis-14-841-government-response-to-recommendations-from-the-FELTAG-action-plan.pdf

⁹ <http://feltag.org.uk/wp-content/uploads/2012/01/FELTAG-REPORT-FINAL.pdf>

¹⁰ http://ec.europa.eu/governance/impact/planned_ia/docs/2013_eac_003_opening_up_education_en.pdf

The main problem this initiative will address is that Europe is not fully reaping the potential offered by new technologies and the upsurge of digital content across the globe to improve the efficiency, accessibility and equity of its education, training and learning systems. This implies digital skill gaps and shortages, an increasing digital divide, an inefficient use of resources in education and training systems and the lack of exploitation of opportunities coming from new phenomena like OER, with a negative impact on European innovation capacities and leadership.

(There is) insufficient supply of quality digital contents across languages, subjects and needs. There is an insufficient collaboration between stakeholders with complementary know-how (e.g. E&T institutions, publishers and ICT companies), at a moment where the traditional model of textbooks production, based on a strong intervention and funding from the State, is challenged by the combination of economic and financial crisis, the appearance of new actors and by emerging phenomena like OER. There are not enough incentives to change models, as it is happening in industries like software (challenged by open source), scientific publishing (with open access) or even music.

(There is) the issue of unclear business models: the perceived uncertain legal framework conditions for producing, using, re-using and sharing educational contents. The current copyright framework is considered by stakeholders as difficult to understand and therefore this creates a barrier to develop and implement innovative teaching and learning practices based on collaboration and individualisation, through the re-use and sharing of content. Users (e.g. teachers) feel that regulations are not transparent enough and are concerned about the perceived uncertain legal consequences of re-using and sharing educational materials.

(There is) difficult access to relevant, quality digital resources, in particular OER: uncertain quality, adequateness and the fragmented nature of digital resources like OER are obstacles to extend their use. It is difficult to discover and identify quality contents adapted to the own needs.

(There is) a lack of teachers' skills for a real digital pedagogy. Previous initiatives to promote ICT in education failed on addressing teachers' and trainers' concerns about the added value of using ICT (and/or OER) in their everyday teaching practices.

It should, however, be noted that there are significant disparities between Member States, and this has implications for policy recommendations.

(There is) a lack of validation and recognition mechanisms for online-acquired skills. The validation of skills and competences acquired online or through OER also needs to be stepped up since learning normally takes place in an informal setting and is seldom

accompanied by any assessment or certification. Assessment and accreditation would allow individuals to demonstrate the skills they have acquired through informal or non-formal OER-based training to potential employees. This may constitute a strong incentive to participate in life-long learning and may push for a more effective functioning of the labour market.

Fragmentation is an obstacle to develop economies of scale at European level and to exploit opportunities coming from public investments. “Market players”, be it education and training institutions (ex: universities) or private players (ex: publishers and ICT industry), may not have the sufficient incentives to develop new business models for a more efficient and equitable the provision of education and training and/or to promote the supply of quality digital content, including quality OER. Incipient markets remain mainly national or even sub-national, with a scarce cross-border component.

These ‘problems’ can easily be turned into ‘Recommendations’, but such recommendations have to be both operationally and politically feasible within the current socio-economic climate in Europe.

The initiative identifies 23 Key Transformative Actions, and those listed below are especially relevant to the vocational training sector. Actions for the Commission are shown in **bold** and recommendations for Member States and institutions are shown in italic type:

- **Coordinate, facilitate exchange of experiences and results achieved in national programmes between Member States and provide targeted policy guidance to clusters of Member States to help them identify successful measures for meeting their challenges in view of the country specific recommendations under the European Semester / Europe 2020**
- *Support innovative teaching and learning environments, through the use of structural and investment funds*
- **Ensure that all educational materials supported by Erasmus+ are available to the public under open licenses and promote similar practices under EU programmes**
- **Use the new programmes Erasmus+ and Horizon 2020 to encourage partnerships between creators of educational content (e.g. teachers, publishers, ICT companies), to increase the supply of quality OER and other digital educational materials in different languages, to develop new business models and to develop technical solutions which provide transparent information on copyrights and open licenses to users of digital educational resources**
- **Establish a European Hub of Digitally Innovative Education institutions, showcasing and piloting innovative ICT-based pedagogical and organisational practices, complemented by a specific European Award of Digital Excellence**
- **Support teachers' professional development through open online courses, following pledges made under the Grand Coalition for Digital Jobs and by creating**

new and scaling up existing European platforms for teachers' communities of practice (e.g. eTwinning, EPALE) to establish collaborative peer-based teaching practices across the EU.

- *Promote networks of volunteer teachers, digital communities and ICT experts in launching initiatives (such as coding courses or back-to-school programmes) and establish teachers' awards for the good pedagogical use of ICT for all educational sectors*
- **Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment.**
- **Explore and test, in cooperation with stakeholders and Member states, digital competence frameworks and self-assessment tools for learners, teachers and organisations**
- **Explore how established and emerging tools for the validation and recognition of skills, such as 'open badges', can be tailored to the needs of learners**

3.2 EU policy and initiatives in the field of vocational training

The development of vocational training has been a subject of enhanced political cooperation at the European level during the past decade¹¹. In December 2010, the Member States, the European level social partners and the European Commission adopted together the *Bruges Communiqué*¹², which defines an ambitious agenda for modernising vocational education and training systems in Europe, so that VET directly contributes to the objectives of the *Europe 2020* strategy. It identifies key challenges and proposes actions both at national and European levels so as to advance towards a seamless European training area and several of these are relevant to the encouragement of OER:

- *Easily accessible and career-oriented continuing VET¹³ for all employees, irrespective of their educational background, which facilitates both competence development and career changes;*
- *Improved **permeability** between the different education and training subsystems (school education, VET, higher education, adult education); **Validation of non-formal and informal learning, including **competences** acquired in the work place;***
- *A **European education and training area, with transparent qualifications systems which enable the **transfer** and accumulation of learning outcomes, as well as the recognition of qualifications and competences, and which facilitate transnational mobility;***

¹¹ http://ec.europa.eu/education/lifelong-learning-policy/vet_en.htm

¹² http://ec.europa.eu/education/policy/vocational-policy/doc/brugescom_en.pdf

¹³ Vocational Education and Training (not via universities).

- *Substantially increased opportunities for **transnational mobility** of VET students and VET professionals;*
- *Easily accessible and high-quality lifelong **information, guidance and counselling services**, which form a coherent network and which enable European citizens to take sound decisions and to manage their learning and professional careers beyond traditional gender profiles.*

Given the diversity of experiences and models, the potential for mutual learning is clearly high. Some Member States are already engaged in peer learning activities, and the Commission is ready to support further collaboration of this type to fully exploit the potential of work-based learning to support employability.

Vocational education and training can play a key role in the processes of economic restructuring. The analysis of case studies in specific clusters (medical technologies; textiles; advanced engineering; finance; and renewable energy) made by CEDEFOP¹⁴ showed that strategic investments in skills – which pay due account to the role of VET – have the potential to create dynamic skills eco-systems which support economic development and innovation. The CEDEFOP report *Trends in VET policy in Europe 2010-12*¹⁴ further shows that the majority of the countries had devised a *national quality assurance approach* or were working towards this aim by 2011. They are also progressing towards a *national quality assurance framework for VET providers*, an objective for 2015 set out in the Bruges Communiqué.

Knowledge exchange platforms for creativity and innovation are present in 17 countries in 2012, but another 13 countries did not report on such platforms. Slow progress in some countries could be due to missing incentives.

For the past five years EU member states have been charged with developing a common qualification framework for VET: the *European Qualifications Framework (EQF)*¹⁵. This framework covers both higher education and vocational training. The adoption of the EQF is designed to facilitate the increased mobility of workers and students and allow workers to have their qualifications recognised outside their own country. This tool will facilitate the transition from work to training and vice versa, on a lifelong basis.

The EQF is a tool based on learning outcomes rather than on the duration of studies.¹⁶ The main reference level descriptors are skills, competences and knowledge and the core element of the EQF is a set of eight reference levels describing what the learner knows;

¹⁴ http://www.cedefop.europa.eu/EN/Files/6116_en.pdf

¹⁵ http://europa.eu/legislation_summaries/education_training_youth/vocational_training/c11104_en.htm

¹⁶ But somehow the HE sector with Bologna has ignored this aspect.

what the learner understands; what the learner is able to do, regardless of the system under which a particular qualification was awarded.

Unlike systems which guarantee academic recognition based on the duration of studies, the EQF covers learning as a whole, in particular learning which takes place outside formal education and training institutions. In 2010 a system for comparing the national systems and the European framework was to be established in all participating States and from 2012, all new qualifications issued by EU post-secondary institutions should have automatically been referred to one of the EQF’s eight qualification levels although it appears that this process has not been completed.

Progress has not kept pace with the initial timetable set by the Commission, but by mid-2013 reports referencing national qualifications frameworks to the EQF had been published from 11 EU countries: Denmark, Estonia, France, Germany, Ireland, Latvia, Lithuania, Malta, Portugal, the Netherlands and the UK.

Be-TWIN¹⁷ and EQAVET¹⁸ have been two of the major EU studies linked with the EQF agenda. The European Association of Craft, Small and Medium Sized Enterprises (UEAPME) have published a useful commentary on the current state of play on EQF¹⁹. This report identifies further work that will be necessary to develop EU-wide assessment frameworks and the transfer and recognition of learning outcomes and limitations caused by existing national legislation. A partial revision of the ECVET recommendation on the basis of the results of the pilot projects seems to be necessary to overcome the current limitations.

However, in spite of this extensive activity, there are virtually no references to OER in any of the documents and only generalised references to the role of ICT and digital pedagogy.

3.3 Business models and barriers

3.3.1 Business models

The *Report on Comparative Analysis of Transversal OER Initiatives* identified a range of business models for developing and sustaining OER initiatives. The Trend Report: *Open Educational Resources 2013*²⁰ concludes that OER have reached the peak of the initial hype. Platforms have been created, large quantities of resources have been developed, MOOCs are being offered, certification systems are being piloted and OER appear to be entering the

¹⁷ <https://www.be-twin2.eu/en/>

¹⁸ www.eqavet.eu/

¹⁹ See

http://www.ueapme.com/IMG/pdf/UEAPME_Position_Paper_on_the_current_implementation_of_the_European_tools_EQAVET_EQF_ECVET.pdf

²⁰ <http://www.surf.nl/trendreportoer2013>

next stage of their development and maturity. In the initial stage, the majority of OER initiatives were funded in the form of projects with either external or internal funding or both. An ongoing challenge faced by these initiatives is what business models might be appropriate to make them sustainable in the longer term. Several initiatives have in fact now ceased or are reduced to ‘tick-over’ level.

Downes (2007) categorises nine different funding models for OER initiatives, which are described as follows:

1. Endowment models: The initiative receives base funding.
2. Membership models: Each partner organisation contributes membership fees.
3. Donation models: The initiative receives donations.
4. Conversion models: Fee payments are made by users/consumers.
5. Contributor-pay models: The contributor pays for the cost of maintaining the contribution and the provider makes it freely available.
6. Sponsorship models, such as commercial advertising.
7. Institutional models: The initiative is funded internally by the institution.
8. Government models: The initiative receives direct funding via government agencies.
9. Partnership or exchanges: The focus is on sharing and exchanging resources.

Most OER projects start up with external funding, and then move to an alternative model once that initial funding finishes. Therefore, the majority of POERUP initiatives fit in well with Downes’s No.1 endowment model, where the project obtains base funding from foundations, commercial companies, institutions or a combination of different sources.

In the past few years significant funding has been made available by governments worldwide to drive OER development. Examples of large-scale government-funded OER initiatives in Europe include the £13 million **OER Programme** from 2009 to 2012 in the UK, the **Wikiwijs** programme involving €8 million public funding in the 2009-2013 period in the Netherlands – in spite of initial fears that this might not be continued, it will be sustained by further public funding, but targeted towards HE, rather than schools²¹ - the ongoing €13 million **Digital School Programme** in Poland, together with several initiatives in the US, and more in other countries.

There are a variety of business models currently being trialled for the development and sustainability of OER initiatives, (though none has been proven yet) and a mix of business models is likely to be used in the near future. The big challenge now is that the scale of investment, especially from governments is unlikely to continue. Lack of government support has already been reported by several countries in POERUP, including the UK, Canada and Italy, as a major factor in limiting further development of OER.

²¹ <http://www.slideshare.net/robertschuwer/wikiwijs-a-national-initiative-on-oer>

The current economic crisis affecting many countries has led to a decrease in government investment in education and innovation. This has weakened the already challenging situation concerning the promotion of OER in some countries, such as Italy, where OER were considered risky even before the crisis. As a result of the economic and financial situation, some national programmes have declined, downsized, or not even started. For example, in England, there seem to be few OER activities in schools, and activities in higher education institutions are inhibited by the cessation of almost all OER-related funding from the government since 2012. However, there is a persuasive counter argument which suggests that austerity and cutbacks have actually accelerated some teaching and learning policy changes (OER amongst them) as institutions, regions and nations seek cost savings.

For this reason, the endowment model of funding is not likely to be sustainable and new business strategies and models will need to be developed in response to the challenges and new contexts in which educational institutions operate in. In the US, the Khan Academy²² and the Saylor organisation are working with sustainable funding, but these “sustainable” initiatives are the exception rather than the rule. Note also that unlike the United States, the role of foundations in funding educational developments is minimal in Europe.

3.3.2 Resistance to change

In addition to the lack of national government interest, OER development in ‘colleges’ and vocational training is being held back by financial self-interest. Much vocational training is carried out by private businesses, many of which are reluctant to release their training materials under open license, for fear of losing perceived commercial advantage. In public training providers, such as the further education colleges in the UK, many teachers are unwilling to share their ‘own’ resources, even with colleagues in the same department²³. Job insecurity has bred a culture of secretiveness in many colleges and many staff do not see any personal advantage in openness.

Richter and Ehlers 2010²⁴ consultation with German school teachers revealed that the term OER was “broadly unknown” to all but the IT teachers and yet the German term ‘freie Bildungsressourcen’ (free educational resources) was familiar. All but one of the teachers surveyed had used teaching materials they sourced from the Internet. And, specifically in the German VET sector teachers in the German ‘Berufsschule’ system (vocational schools which support apprenticeship type programmes) reported much more fundamental issues namely that a significant proportion did not use computers, availability of appropriate

²² See <https://www.khanacademy.org/about/our-supporters>

²³ From interviews in Scotland’s colleges undertaken for the POERUP case study on Re:Source

²⁴ Richter, T., Ehlers, U.D. (2010) Barriers and Motivators for Using Open Educational Resources in Schools

http://openaccess.uoc.edu/webapps/o2/bitstream/10609/4868/6/Richter_editat2.pdf

technology was patchy, some of the craft guilds prescribed content and generally, appropriate content was not available.

3.4 The case for policy interventions

3.4.1 The ‘Roadmap’

The ‘Roadmap’ makes a strong case for policy interventions at a European level:

A strategic intervention at European level should therefore bring the following added-value:

– Education and training have increasingly a cross-border and international character. The global competition for highly skilled staff implies that European education and training need to remain attractive for the best students and researchers and deliver excellent outcomes. Increasing coordination through a holistic approach allow to tap into economies of scale allowed by technology and digital content which, in turn, increase the opportunities to access to quality education for a wider range of learners and foster EU leadership with a more efficient use of resources.

– European-wide framework conditions stimulate the creation of digital technology tailored to education and training purposes and the supply of quality digital content, including OER. This will allow individuals, schools, training institutions and universities to be better equipped to capitalise on (past or present) public investments made on upgrading ICT infrastructure. European framework conditions will also boost synergies across countries in the development of innovative practices and by that stimulate an increase of quality of European education.

The ‘Roadmap’ describes three policy options, the first of which is to take no action. The case for policy intervention is explored in Options 2 and 3:

Option 2: A coherent set of EU incentives to exploit the potential of digital technologies and content for better access and quality of education.

This option would imply joint action from the Commission and other stakeholders, in line with their respective competences in the field of education. The Commission would devise and implement a more coherent strategy for stimulating the integration of digital technologies and content (including OER) in mainstream education and training, to stimulate open educational practices and innovative learning environments. Supportive actions would be based on incentives financed by the new generation of funds and programmes of the Multiannual Financial Framework (MFF) and on the establishment of a reference framework at EU level which should sustain the political guidance provided to MS.

Option 3 would involve a greater degree of centralised intervention, with the Commission creating a body responsible for certifying quality of digital educational contents, including OER. It would be a central organisation aimed at:

- *Delivering a European quality label for contents produced in Europe.*
- *Support the production of quality OER.*
- *Validate skills acquired online.*

The Commission would create an EU centre for ICT training of teachers in Europe.

– *Option 1 (doing nothing) is likely to reproduce or even aggravate the current problems: uneven infrastructures and integration of ICT in education and training systems, inefficient use of existing digital investments, digital divide and digital skill gaps. Under this option, Europe will probably continue to lag behind in emerging phenomena like MOOC and the business opportunities that are already appearing.*

– *Option 2 proposes an incremental approach. It is built on the lessons learnt from current and past supportive actions. In order to increase their efficiency, option 2 proposes to establish better reference framework at EU-level, in particular through an intense collaboration with stakeholders, as well as a stronger commitment from Member States through soft legislation. This holistic approach is expected to give a political impulse for the integration of ICT and OER in education and training systems, which will lead to positive impacts on access and equity, quality of educational resources and practices, improved business opportunities at micro level, enhanced European competitiveness, as well as social benefits like employability or better access to learning. Option 2 proposes practical measures and a common rationale within existing OMC and funding structures, with the major advantage of launching a strong political message at a moment when OER like MOOC²⁵ are at the heart of the public debate. Option 2 would have impact on implementation arrangements because “Erasmus for all” regulations should be adapted to the proposed open access to educational materials funded. Similarly, country-specific recommendations under option 2 would have an impact on Member States’ policies and budgets, as well as for the EC if the use of Structural Funds was necessary.*

– *Option 3 proposes a more centralised approach. The main risks of this option are the high cost of measures proposed (i.e. massive investment on ICT infrastructures, new bodies for certification or teacher training), compared with the uncertain added-value compared with Option 2. Option 3 would increase administrative burden, can lead to potential duplications of work and may even create inconsistencies with existent policies (e.g. Council Recommendation on validation of non-formal and informal learning).*

The ‘Roadmap’ notes that *not all Member States are equally convinced about the potential benefits of OER. For instance, in an OECD country survey (June 2012), German respondents raised doubts about OER as a policy priority in the near future. German respondents*

²⁵ It is, of course, questionable as to how far MOOCs are genuinely OER initiatives.

questioned whether a lack of digital content prevents learning, particularly in the case of people with low qualifications, and whether well-educated people will benefit the most from OER. Furthermore, they ask if there are any sustainable business model for OER and consider that there are questions of standards, quality, technical interoperability, and legal questions concerning copyright that have not been solved yet. All questions related to disruptive phenomena like open access, open source or OER are always very controversial, since they challenge traditional stakeholders’ business models.

3.4.2 The EU policy document for VET

The EU policy document²⁶ on VET identifies a number of key points for Member States:

- Policy frameworks should provide VET institutions with the *autonomy and flexibility* to be an active partner in the local, regional and sectoral economic context and the ability to cooperate with the private sector;
- VET providers should be *supported to endorse change and innovation* and to disseminate cutting edge practices.

Key points for European Commission, Member States, social partners and VET providers:

- Local and regional authorities, as well as VET providers, should develop an *internationalisation culture and internationalisation strategies*, including cross-border mobility;
- Stakeholders should *address legal and administrative obstacles* related to the transnational mobility of apprentices and trainees;
- Professional chambers, business organisations and other relevant organisations are encouraged to support the host and sending enterprises in providing *appropriate conditions for apprentices and trainees in transnational mobility*;
- Authorities should ensure the provision of *language learning and intercultural competences* in VET curricula;
- Stakeholders should make optimal use of other EU tools (e.g. EQF, EQAVET, Europass) for enhancing the *mutual recognition of qualifications and competences*.

The implicit implication is that the development of OER can be an important part of encouraging internationalisation across Member States’ borders.

3.4.3 Other key documents reinforcing the importance of policy interventions

The case for policy intervention is strongly supported by other researchers, both inside and outside Europe. Key documents include:

²⁶ http://ec.europa.eu/education/lifelong-learning-policy/vet_en.htm

*Open Education: The Business & Policy Case for OER (Cable Green)*²⁷; *Open access to research publications reaching a ‘tipping point’*²⁸, the recent UNESCO report on *OER in Brazil*²⁹, *OER for Open Schools: Expanding ICT Expertise and Quality Secondary Education*³⁰ (Commonwealth of Learning, work done by the Learning and Knowledge Technologies Unit, Generalitat de Catalunya - Department of Education (Francis Busquets)³¹ and the *Open Scotland* initiative³². All five of these documents provide elements of a useful template for policy recommendations.

3.4.4 Where should the focus be for policy interventions?

The EU administration and national ministries expect policy recommendations from an expert group (POERUP is *not* a lobby group for OER, it is a team of analysts looking at OER) to take into account the following factors:

- the strength of the evidence base for the assertions
- the importance of the problems the policy interventions are aimed to alleviate
- the relative importance of these interventions compared with other interventions
- the existing policy thicket for education, ICT in education and related issues (such as open access)
- the socio-economic situation – in particular the potential funding available.

So where should one focus policy interventions linked to OER?

Not surely, at OER only – in reality almost no European countries other than England (not the rest of the UK) and Netherlands have had a substantial state-funded HE programme of OER and in one of these (UK) it has finished and for the other (Netherlands) there has only recently been a renewal of funding – together with a change of direction – for Wikiwijs³³. Even these programmes have not addressed VET. In contrast, open access (simplistically OER for postgraduate students and research staff) is much more embedded. Given that there are virtually no national policies across Europe towards OER alone (with the recent exception of Wales³⁴ and Slovenia³⁵) for any educational sector, it seems sensible to link

²⁷ <http://panelpicker.sxsw.com/vote/19494>

²⁸ http://europa.eu/rapid/press-release_IP-13-786_en.htm

²⁹ <http://iite.unesco.org/pics/publications/en/files/3214695.pdf>

³⁰ <http://www.col.org/progServ/report/clippings/Pages/2012-01-OER4OS.aspx>

³¹ Francisc Busquets: Creating and sharing OER in primary and secondary education: challenges and strategies”. <http://communia-project.eu/node/401>

³² <http://blogs.cetis.ac.uk/lmc/2013/07/04/open-scotland-report-and-actions/>

³³ <http://www.slideshare.net/robertschuwer/wikiwijs-a-national-initiative-on-oer>

³⁴ <http://www.jiscrc.ac.uk/wales/news/2013/september/welsh-universities-commit-to-upload-lectures-and-research-online.aspx>

³⁵ See <http://www.k4all.org/openingupslovenia/>

OER policy recommendations to wider ICT policies. A number of countries have made aspirational statements about OER and open access to resources (e.g. Scotland³⁶ and Wales, where a multi-sector policy statement is imminent) and policy recommendations can add impetus to aspirations, where they can be seen to be evidence-based.

OERs have been an important component of two of the Commission’s most significant policy initiatives with regards to education. The *Opening Up Education*³⁷ initiative has a theme of developing tools and indicators for measuring institutional application of *e-learning* and this can be expected to incorporate OER: it therefore makes sense to link our policy recommendations with this initiative and map them against the Key Transformative Actions in *Opening Up Education*. We also take note of the Horizon 2020 agenda³⁸. In making recommendations, it is important to remember that each EU Member State is responsible for its own education policies³⁹ and recommendations to the Commission need to match the language of *Opening Up Education* and ‘encourage’ Member States to take actions. The sovereignty of individual member states also operates in the areas of copyright and licensing: even though the EU has been trying to develop common policies for more than ten years.

It is clear that there is a strong (but not perfect) correlation between autonomous OER activity and the scale of a language (in terms of the total number of speakers in the world – a key parameter for Wikipedia too).⁴⁰ So English OER is dominant, and not just/only because of the size of the US economy. There is a lot of OER going on in French and Spanish also.⁴¹ The correlation is not perfect – far more is going on in Dutch than expected, and rather less in Portuguese, Russian and Arabic than might be expected. Chinese is a world language but remains a mystery in terms of the amount of OER. That is not to say that there are not active OER movements in many other countries, especially in Asia (Vietnam, Korea, Japan) but often focused on translation not origination, and overwhelmingly at university level⁴².

3.5 Framework for policy recommendations

From our research and analysis, it seems clear that policy recommendations need to address the following key themes:

³⁶ See <http://blogs.cetis.ac.uk/lmc/2013/07/04/open-scotland-report-and-actions/> and <http://openscot.wordpress.com/2014/01/>

³⁷ See http://europa.eu/rapid/press-release_IP-13-859_en.htm and <http://ec.europa.eu/education/policy/strategic-framework/education-technology.htm>

³⁸ <https://ec.europa.eu/programmes/horizon2020/en/area/ict-research-innovation>

³⁹ See http://europa.eu/pol/educ/index_en.htm

⁴⁰ See <http://stats.wikimedia.org/EN/Sitemap.htm>

⁴¹ Whenever countries are mentioned, the readers are invited to consult the POERUP country pages indexed from <http://poerup.referata.com/wiki/Countries>

⁴² See http://en.wikipedia.org/wiki/World_language

- the regulatory framework for resources which can support learning;
- improving the quality and transferability of vocational education and training across Member States;
- improving teacher, lecturer and trainer awareness and use of OER;
- promotion and advocacy of the benefits of OER;
- obtaining best value for money in VET.

Taken together, the recommendations can all enhance, and be embedded in, existing EU initiatives. They can all be aligned with the Option 2 scenario for the ‘Roadmap’ for *Open Education* and includes elements of Option 3 as well.

3.5.1 Grouping of recommendations

Our recommendations are grouped under nine headings:

- **Communication and awareness raising.** Evidence suggests an urgent need for additional communication and cross-fertilisation.
- **Funding mechanisms and resources.** Although education budgets are under severe pressure in EU states, there are actions that can be taken that do not cost much to implement.
- **Copyright / licensing issues.** The Communication From The Commission: On content in the Digital Single Market⁴³, issued in December 2012, sets out a series of actions on copyright harmonisation leading to possible legislation in 2014. In this document the Commission urges industry to deliver innovative solutions for greater access to online content⁴⁴. The Commission document covers all online resources: it is important in the context of VET that all online resources should be addressed (i.e. OR), not just those seen more narrowly as ‘educational’ (i.e. OER).
- **Reducing regulatory barriers and developing common syllabi** which are achievement- and not time-based.
- **Quality issues.** - Assuring quality is essential to the credibility of OER, but need not be a cumbersome process. Innovation funds could operate at Europe-wide and country-wide levels and also within institutions, industry bodies and training organisations delivering courses at ISCED level 4. The creation of appropriate pathways to credentials is as important as the development of resources themselves.
- **Teacher training and continuous professional development:** these are crucial in exploiting the benefits of OER.
- **Certification and accreditation.** Certification and accreditation are still too parochial. Given the diversity of qualification frameworks and accreditation that currently exists across Member States, it is perhaps unsurprising that the

⁴³ http://ec.europa.eu/internal_market/copyright/docs/copyright-info/121218_communication-online-content_en.pdf

⁴⁴ http://ec.europa.eu/internal_market/copyright/index_en.htm

development of the EQF has been a slow process and some of the initial deadlines have not been met. The Copenhagen Declaration⁴⁵ is now more than ten years old and the framework it sets out remains largely a wish list. As the Commission asserts, strong, quality VET is central to overall European economic recovery and this is acknowledged by Member States. The development of an international culture is already under way: labour mobility will continue to increase and the standardisation of syllabi and portability of qualifications should be central planks of this.

- **Infrastructure issues:** IT infrastructure is still uneven across Member States.
- **Further research.** Further research should be particularly focused on sustainable business models. This recommendation has two strands. First, there is a quality case to be made for the benefits of OER in opening up a wider range of learning resources to learners at all levels, including ISCED level 4. There is some evidence from recent research studies^{46 47} that with the increased availability of OER, individuals can learn more material in shorter time with equal learning gains, but further research is needed, particularly given the fairly sceptical attitude in the past towards OER in some Member States, notably Germany, though the climate there may now be changing.⁴⁸ Cable Green⁴⁹ also suggests that the use of OER may lead to lower drop-out rates, but further research is needed to confirm this, particularly if commercial content is not readily available.

The second strand concerns the development of sustainable business models for OER. Given that central governments’ financial support for OER initiatives has decreased over the past two years and shows no sign of returning to pre-2012 levels it is important to explore the business models summarised in section 2.2 of this document, both in the context of reduced government funding and copyright and licensing reform.

⁴⁵ http://ec.europa.eu/education/pdf/doc125_en.pdf

⁴⁶ Thille, C. (2010). “Building open learning as a community-based research activity In T. Ilyoshi & M. S. Vijay Kumar (Eds.), *Opening up education* (pp. 165 -180). Cambridge, MA: MIT Press. Retrieved from http://mitpress.mit.edu/sites/default/files/titles/content/9780262515016_Open_Access_Edition.pdf.

⁴⁷ Lovett, M., Meyer, O., & Thille, C. (2008). The Open Learning Initiative: Measuring the effectiveness of the OLI Statistics Course in accelerating student learning. *JIME: Journal of Interactive Media in Education*. Retrieved from <http://jime.open.ac.uk/jime/article/viewArticle/2008-14/351>

⁴⁸ <http://www.wikimedia.de/wiki/OERde13>

⁴⁹ Green, C. (2009, October 14). Washington State Community and Technical Colleges Launch the Washington State Student Completion Initiative. Retrieved from <http://blog.oer.sbctc.edu/2009/10/washington-state-community-colleges.html>

4 Policy Recommendations

Each sub-section of this chapter lists policy recommendations to the Commission and Member States separately, and includes references to relevant Key Transformative Actions from *Opening Up Education* and the Bruges Communiqué on VET, where appropriate.

4.1 Communication and Awareness Raising

4.1.1. Recommendations to the Commission

1. **Provide further evidence for its position with regards to the abundance or scarcity of appropriate resources currently available and communicate this message clearly.**
2. **Continue to promote the OER related initiatives it is currently funding and through them to promote the creation, sharing, use and reuse of high-quality OERs. Encourage and support Member States to promote these resources within the context of their sovereign educational aims and objectives.**
2. **Continue to promote to educational users (leaders, practitioners, students and guardians) the availability and accessibility of open resources created through its cultural sector programmes and encourage Member States to do likewise for their domestic cultural sector programmes, to make these available across the European Union and ensure that future programmes do not have unintended legal impairments to cross-border sharing.**

4.1.2 Related Key Transformative Actions in *Opening Up Education*

- *Support teachers' professional development through open online courses, following pledges made under the Grand Coalition for Digital Jobs and by creating new and scaling up existing European platforms for teachers' communities of practice (e.g. eTwinning, EPALÉ) to establish collaborative peer-based teaching practices across the EU.*
- *Support innovative teaching and learning environments, including through the use of structural and investment funds*
- *Support teachers in acquiring a high level of digital competences and adopt innovative teaching practices through flexible training, incentive schemes, revised curricula for teachers' initial education and new professional evaluation mechanisms.*
- *Launch the Open Education Europa portal and linking it to existing OER repositories in different languages and bringing learners, teachers and researchers together, so to improve the attractiveness and visibility of quality OERs produced in the EU.*
- *Stimulate open access policies for publicly-funded educational materials.*

4.1.3 Related extract from the Bruges communiqué

- *As players on the global education market, national VET systems need to be connected to the wider world in order to remain up-to-date and competitive. They have to be more*

capable of attracting learners from other European and third countries, providing them with education and training as well as making it easier to recognise their skills.

4.2. Funding mechanisms and resources

4.2.1 Recommendations to the Commission

- 1. Create an innovation fund for the development of online learning resources and assembling/ creating pathways to credentials.**

4.2.2. Recommendations to Member States

- 1. Ensure that budgets for digital educational resources are flexible enough to support the development (and maintenance) of openly licensed materials.**
- 2. Increase their scrutiny of the cost basis for VET delivery and consider the benefits of output-based funding for qualifications.**

4.2.3 Related Key Transformative Actions in *Opening Up Education*

- *Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment.*
- *Ensure that all educational materials supported by Erasmus+ are available to the public under open licenses and promote similar practices under other EU programmes.*
- *Establish a European Hub of Digitally Innovative Education institutions, showcasing*
- *and piloting innovative ICT-based pedagogical and organizational practices, complemented by a specific European Award of Digital Excellence.*

4.3 Copyright / licensing issues

4.3.1 Recommendations to the Commission

- 1. Ensure that all educational materials supported by EU programmes are available to the public under open licenses.**
- 2. Support the development of technological methods to provide more and standardised information on IPR to the users of digital educational content.**
- 3. Mount a campaign both centrally and via the Member States to educate trainers and teachers delivering VET on IPR issues.**

4.3.2. Recommendations to Member States

- 1. Ensure that all educational materials produced by VET teachers and trainers are available to the public under open licenses.**

4.3.3 Related Key Transformative Actions in *Opening Up Education*

- *Ensure that all educational materials supported by Erasmus+ are available to the public under open licenses and promote similar practices under other EU programmes.*
- *Exploring ways with rightholders, teaching institutions and other educational stakeholders to understand and assess the current practices and needs of sharing educational materials (including open educational resources), including those resulting from copyright and licensing regimes, multilingualism, quality assurance, etc. both in national and cross-border contexts.*

4.4 Reducing regulatory barriers

4.4.1 Recommendations to the Commission

1. **The Commission and related authorities developing VET should reduce any regulatory barriers against new non-study-time-based modes of provision.**
2. **Foster work into standardised syllabi EU-wide for technical and vocational training where this is appropriate for EU-wide action, and in the light of a successful outcome to such initiatives, foster the developments of common bases of OER material to support these standards, including relevant open repositories and (ideally jointly with publishers) open textbooks.**

4.4.2 Related Key Transformative Actions in *Opening Up Education*:

- *Encourage formal education and training institutions to include digital content, including OERs, among the recommended educational materials for learners at all educational levels and encourage the production, including through public procurement, of high-quality educational materials whose copyrights would belong to public authorities.*

4.4.3 Related extracts from the Bruges communiqué

- *Flexible systems of VET, based on a learning outcomes approach, which support flexible learning pathways, which allow permeability between the different education and training subsystems (school education, VET, higher education, adult education) and which cater for the validation of non-formal and informal learning, including competences acquired in the work place.*
- *A European education and training area, with transparent qualifications systems which enable the transfer and accumulation of learning outcomes, as well as the recognition of qualifications and competences, and which facilitate transnational mobility.*

4.5 Quality issues

4.5.1 Recommendations to the Commission

1. **Establish a European quality assurance standard for OER content produced in Europe.**

4.5.2. Recommendations to Member States

1. Where Member States have Quality Assurance or materials approval processes they should ensure that OER are allowed to be included on approved instructional materials lists.
2. Require (within reasonable expectation) OER to meet (disability) accessibility standards and ensure that accessibility is a central tenet of all OER programmes and initiatives.
3. Consider establishing and funding an OER evaluation and adoption panel. This panel should include lead teachers, content experts and accessibility experts.
4. Consider establishing a specialist OER function/post to undertake an in-country cost-benefit analysis to assess the potential savings (or otherwise) which might be achieved through implementing an OER strategy.
5. Quality agencies should consider the effects of these new modes on quality assurance and recognition and ensure that there is no implicit non-evidence-based bias against these new modes when accrediting institutions both public and private including for-profit (if relevant), accrediting programmes (if relevant) and assessing/inspecting institutions/programmes.

4.5.3 Related Key Transformative Actions in *Opening Up Education*

- *Encourage formal education and training institutions to include digital content, including OERs, among the recommended educational materials for learners at all educational levels and encourage the production, including through public procurement, of high-quality educational materials whose copyrights would belong to public authorities.*
- *Launch a specific impact assessment on the economic and social impact of an EU initiative to stimulate open access to educational materials produced with public funds.*

4.5.4 Related extracts from the Bruges communiqué

- *Participating countries should - by the end of 2015 - establish at national level a common quality assurance framework for VET providers, which also applies to associated workplace learning and which is compatible with the EQAVET framework.*
- *The diversity of European VET systems is an asset for mutual learning. But transparency and a common approach to quality assurance are necessary to build up mutual trust which will facilitate mobility and recognition of skills and competences between those systems. In the decade ahead we must give high priority to quality assurance in our European cooperation in VET.*

4.6 Teacher training and continuous professional development

4.6.1 Recommendations to Member States

1. Establish (and adequately fund) a professional development programme to help teachers and administrators understand the benefits and uses of OER and open licensing. This would support teacher / trainer / lecturer CPD on the creation, use and re-use of OER,

with coverage of distance learning, MOOCs and other forms of open educational practice, and also IPR issues.

2. **Develop incentive schemes for teachers and trainers engaged in online professional development of their pedagogic skills including online learning.**

4.6.2 Related Key Transformative Actions in *Opening Up Education*

- *Support teachers' professional development through open online courses, following pledges made under the Grand Coalition for Digital Jobs and by creating new and scaling up existing European platforms for teachers' communities of practice (e.g. eTwinning, EPALÉ) to establish collaborative peer-based teaching practices across the EU.*
- *Support teachers in acquiring a high level of digital competences and adopt innovative teaching practices through flexible training, incentive schemes, revised curricula for teachers' initial education and new professional evaluation mechanisms.*
- *Develop measuring tools and indicators to monitor more closely the integration of ICT in teaching and training institutions, and support Europe-wide quantitative surveys.*

4.6.3 Related extracts from the Bruges communiqué

- *Raise the quality of I-VET by improving the quality and competences of teachers, trainers and school leaders, introducing flexible pathways between all education levels and increasing public awareness of the possibilities which VET offers. This is of particular importance in participating countries where VET tends to be undervalued.*

4.7 Certification and accreditation

4.7.1 Recommendations to the Commission

1. **Drive forward the development of EQF and encourage Europe-wide validation of learning acquired online.**
2. **Foster the development of transnational accrediting agencies and mutual recognition of accreditations across the EU.**

4.7.2. Recommendations to Member States

1. **Larger Member States should set up an Open Accreditor to accredit a range of studies which could lead to an undergraduate degree. In the first instance the Accreditor should focus on qualifications in the ISCED 5B area as this is most correlated with high-level skills for business and industry.**

4.7.3 Related Key Transformative Actions in *Opening Up Education*

- *Reinforce digital skills in education and training institutions, including among disadvantaged groups, and revisit learners' assessments in order to ensure that all skills acquired through digital learning can be recognised.*

4.7.4 Related extracts from the Bruges communiqué

- *Flexible systems of VET, based on a learning outcomes approach, which support flexible learning pathways, which allow permeability between the different education and training subsystems (school education, VET, higher education, adult education) and which cater for the validation of non-formal and informal learning, including competences acquired in the work place.*
- *A European education and training area, with transparent qualifications systems which enable the transfer and accumulation of learning outcomes, as well as the recognition of qualifications and competences, and which facilitate transnational mobility.*
- *Implement the EQF Recommendation: the development of comprehensive NQFs based on the learning outcomes approach. Use the NQF as a catalyst for creating more permeability between VET and higher education, for developing or maintaining VET at post-secondary or higher EQF levels, and for realising flexible learning pathways, referencing NQF levels to EQF levels by 2012.*
- *Start to develop, no later than 2015, national procedures for the recognition and validation of non-formal and informal learning, supported as appropriate by national qualifications frameworks. These procedures should focus on knowledge, skills and competences, irrespective of the context in which they have been acquired, for example broad adult learning, VET, work-experience and voluntary activities. Greater account should also be taken of knowledge, skills and competences that do not necessarily lead to full formal qualifications.*
The Commission and the participating countries should work towards increasing coherence between the two European credit systems - ECVET and ECTS.

4.8 Infrastructure issues

4.8.1 Recommendations to the Commission

1..Continue the focus on improving the ICT in education infrastructure in Member States (and levelling out disparities of access) so that they are able to exploit potential pedagogical and financial advantages of OER.

4.8.2. Recommendations to Member States

- 1. Continue their focus on improving the ICT in education infrastructure (and levelling out disparities of access) so that they are able to exploit potential pedagogical and financial advantages of OER.**
- 2. Where nations (or institutions) are providing digital devices they should ensure that all considerations have been taken to maximise the effectiveness (economically and pedagogically) of devices, support and strategy with regards to OER.**

4.8.3 Related Key Transformative Actions in Opening Up Education

- *Connect every school, ideally including connectivity to individual classrooms, to*

broadband, upgrade their ICT equipment, and develop accessible, open national digital learning repositories using structural and investment funds by 2020.

4.9 Further research

4.9.1 Recommendations to the Commission

- 1. Develop its understanding of new modes of learning (including online, distance, OER and MOOCs) and how they impact quality assurance and recognition.**
- 2. Fund research into the verifiable benefits of OER, with greater efforts to integrate such analyses with its ongoing research on distance learning, on-campus online learning, and pedagogy; and recommend the same to Member States. Future OER research should explicitly embrace Repositories, Federations, Portals and Tools and should consider work-based learning, both self-directed and trainer-led.**
- 3. Foster research into the benefits of OER & sustainable business models, integrating this with its ongoing research on distance learning, on-campus online learning, and pedagogy; and recommend the same to Member States.**
- 4. Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment.**

4.9.2. Recommendations to Member States

- 1. Foster research into the benefits of OER & sustainable business models, integrating this with its ongoing research on distance learning, on-campus online learning, and pedagogy; and recommend the same to Member States.**
- 2. Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment.**

4.9.3 Related Key Transformative Actions in *Opening Up Education*

- Support educational institutions in developing new business and educational models and launch large-scale research and policy experimentations to test innovative pedagogical approaches, curriculum development and skills assessment.*

5 Conclusions

These recommendations contain an inevitable mixture of the practical and aspirational. It is invidious to attempt to make recommendations which deal solely with OER and many from the list are applicable to wider areas of policy for ICT in education – this is a similar situation to the one we encountered in making recommendations in VISCED⁵⁰.

There are major areas where national governments have jurisdiction and the role of the EU can only be to ‘encourage’. The EU has been wrestling with copyright issues and policies for more than ten years and several Member States have either amended, or are in the process of amending their legislation, but there is still a labyrinth of difficulties to overcome.

Many of the recommendations could readily be absorbed within existing Commission initiatives, e.g. progress on EQF, Horizon 2020, the Grand Coalition for Digital Jobs and Erasmus+. In some cases, our recommendations have already been incorporated within the Key Transformative Actions in *Opening Up Education*⁵¹ and the rules for Erasmus+ stipulate that materials and products developed with EU funding must be made available under open license⁵².

Although there are relatively few recommendations for further research, this area is especially critical, particularly in developing sustainable business models for OER initiatives which do not depend on never-ending government funding. The Foundation model, which sustains many OER initiatives in the USA, is not well developed in Europe.

Taken together, these policy recommendations can further the acceptance of OER in vocational education and training through:

- stimulating their supply, through encouraging bottom-up production/assembly of OER; encouraging publishers and other content owners to make them open access; encouraging institutional actors to set up open access repositories of learning resources and study programmes.
- stimulating demand, through encouraging and funding research into open learning outcomes; awareness campaigns for individuals, teachers and trainers; public commitment, declarations (putting teeth into the UNESCO declaration); norms legitimising a European OER/OEP/licensing framework.
- support for market functioning and transparency, through Directives for recognition of learning outcomes and international agreements.
stimulating knowledge development through the establishment of a quality association and quality assurance body; training teachers, lecturers and trainers, both through initial training and CPD.

⁵⁰ See <http://www.virtualschoolsandcolleges.info/>

⁵¹ The first drafts of our recommendations were discussed were made available to the Commission and its research arm before *Opening Up Education* was finalised.

⁵² http://ec.europa.eu/programmes/erasmus-plus/documents/erasmus-plus-programme-guide_en.pdf

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