The Changing Pedagogical Landscape

In search of patterns in policies and practices of new modes of teaching and learning

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...authors country reports 2014/2015

Opmerking [e1]: Check of all authors are listed

Opmerking [DJ2]: Also listing the authors of country report 2015?

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Opmerking [e3]: Some section needs to be repositioned. In addition Section 4 is too long and needs to be splitted in separate chapters

In addition each topic needs a more-or-less same structure
- short introduction to topic
- cases from countries descriptive
- additional cases (outside)
- conclusions
- comments, with reference to other paper and policies
- recommendations

1. Main issues / summary

In the last 50 years, higher education in all European countries has moved from elite to mass provision, and arguably in some cases now approaches universal provision. Alongside the desire to expand access to higher education for more young adults (mainly secondary school leavers), has been a wish to expand lifelong learning in recognition of the need for working adults to re-skill/up-skill during their working lives, also for those out of the workforce to re-join it, and to focus on those with greatest socioeconomic disadvantage.

European societies changed and will further change, due to the impact of new technologies and through new developments in the economy and in society at large. This has consequences for universities. The needs for lifelong learning will equal or even exceed the size of needs for initial degree education. Hence, this is an emergent higher education sector that needs a rapid development as part of the higher education system.

As a consequence, an increasing number of universities and colleges offer, next to of degree programs, continuous education and lifelong learning, and open education mainly related to OER and MOOCs. In all three areas of provision, new pedagogies have emerged, strongly enabled by the innovation/ict push and facilitated by different support structures at various levels. Universities start to develop visions and strategies to position themselves at the national and international level in each of these areas. Universities need enough autonomy to determine their position in these three areas and to act flexibly and rapidly to respond to changes in society and in the economy.

This report confirms the CPL (2015) study that "at present it is probably true to say that technology is used within and alongside largely unchanged pedagogical approaches. There was no evidence in the literature, nor in our case studies, that suggested that traditional universities were offering the majority of their bachelor or master degrees in formats that would enable students to study at a distance (e.g. online) or to vary their rate of progression, nor to be able to study in different modes at the same time." "Although innovation is taking place very widely across Europe, it still forms a very small fraction of total higher education provision."

However, more interesting examples are emerging that potentially have increasing impact at a system level. In addition, some overall trends towards change are observed as well. ICT-based modes of teaching and learning can solve problems higher education is facing today and will offer new opportunities for teaching and learning in each of these areas. They will innovate and even transform higher education provisions in the course of next years.

SUMMARY OF TRENDS AFTER REST OF REPORT IS Finalised

TWO OR THREE BEST EXAMPLES

2. Introduction to Changing Pedagogical Landscape

In European universities three areas of provision emerge: degree education as the backbone of a university; continuous education and continuous professional development, which probably will exceed the number of degree students; and recently forms of open education like OER and MOOCs. Universities attempt policies and strategies to define their profile in these areas, which can be complementary to each other and to some extent interwoven. Blended and online systems in all three areas are important to accelerate innovation and to keep pace with the needs of learners of all ages and of society. Digital modes of teaching and learning can solve problems higher education is facing today and will offer new opportunities for teaching and learning in each of these areas. They will innovate and even transform higher education provisions in the course of next years:

- Blended degree education will raise the quality, accessibility and efficiency of degree education, facing large numbers of students and lower staff/students ratios.
- Blended and online education will upscale the area of continuous education and continuous professional development (CPD) by offering flexible courses with a large outreach responding to the needs of learners at work, who face longer careers and career shifts.
- Recent forms of open education related to OER and MOOCs are offered online only, providing for free massive and open access learning opportunities for all, promoting engagement in the knowledge society.

These areas are complementary to each other and to some extent interwoven (Haywood, Connelly, Henderikx, Weller &Williams, 2015[1]). Although these are different in terms of target groups and business models, universities create synergies between them. New ICT-based modes of teaching and learning support these provisions.

This report is a follow-up of a Changing Pedagogical Landscapes study conducted from January 2014-June 2015, continuing this study as a biannual report on new modes of teaching and learning. To this end EADTU members conducted a follow-up research during 2017. The objectives (or research questions) of this follow-up study are:

1. To identify the implications for *pedagogy* in established higher education institutions of the most significant practices and trends in new modes of teaching and learning.
2. To complete an overview of what *government-led strategies*, policies and measures exist in the countries included in the study to foster an increased use of ICT in higher education teaching and learning and the key aims of these (for example, meeting large numbers of students (scale), making education better (quality), reducing costs, widening access, delivering continuous education and open education (MOOCs, OER)
3. To assess where the *main barriers and pinch points* exist to the effective exploitation of new learning methodologies with a particular emphasis of formal higher education frameworks of accreditation, funding, quality assurance, assessment and certification.
4. To formulate *recommendations* for policy makers at the level of higher education systems on how to promote and harness new modes of teaching and learning to improve quality and relevance and how formal frameworks can empower and incentivise higher education institutions to exploit their potential.

[1] This is also referred to as CPL study of 2015

This study focusses on the following seven countries, compared to first CPL study (Haywood et al., 2015): Austria, Denmark, Finland, France, Greece, Portugal and Spain/Catalonia. Together with the 2015 CPL study, this encompasses 19 countries of member states of European Union.

SUMMARY OF STRUCTURE / table of content OF REPORT

Overview which institutions and organisation have been interviewed (per country) including abbreviations in annex

Opmerking [e4]: Not all country reports mention the institutions/organisations interviewed. So hard to uniform list of interviews

The next section focusses on the overall institutional policies related to the vision, strategies and frameworks to new modes of teaching and shortly discuss also the relation between institutional and governmental policies.

3. Institutional perspectives

This section focusses on the overall institutional policies related to the vision, strategies and frameworks for new modes of teaching. Based on desktop research and the various country reports effective strategies are highlighted and illustrated. At the end of this section the relation between institutional and governmental policies are shortly discussed (Governmental policies are discussed in more detail in section 5).

3.1. Institutional policy: vision, strategies and frameworks

Blended education is the dominating trend of innovation in on campus degree education. This is especially seen at the bachelor level. Penetration of the use of educational technology into master level education is less consistent (Haywood, Connelly, Henderikx, Weller &Williams, 2015).

Opmerking [PH5]: Seems not to be the case anymore: Greece, UK, Delft, etc.

The goal of blended education is developing more effective pedagogies; providing an increased convenience and access to learning provisions; and obtaining an increased cost-effectiveness (e.g, EADTU & ENQA, 2017 ; Gaebel, M., Kupriyanova, V., Morais, R. & Colucci, E. ,2014)

The development of high quality blended education requires a strong institutional leadership and an academic culture in favour of innovation. Enablers for this development are amongst others: an appropriate course design, avoiding many mis-conceptions on blended education; continuous professional development of teaching staff; technologies for new pedagogies; technological and pedagogical staff support, course collaboration between staff; course teams; sharing of course material; and the institutional evaluation of innovation. (e.g., Laurillard, 2012).

In this study the existence of overall strategies supporting the continuous innovation of digital technologies and blended approaches is examined. Most European universities seem to have a digital education strategy of some kind, either as a separate document, or (especially where digital education has become mainstream) as part of the overall learning and teaching strategy. Often there is a senior staff member assigned responsibility for this area.

Surveys of university leaders (e.g., Gaebel et al., 2014) show that the most common reasons for introducing technology into courses and programs are: to give greater flexibility to students and to teachers, in the time and place that teaching and learning take place; to enable more flexible curricula; to enhance quality, especially of on-campus education; to cope with more students, and with more diverse students; to respond to demands from government or employers for more relevant education; to maintain parity with peers, especially internationally; and to reach new audiences of learners, sometimes with new income streams as an added incentive.

ICT facilitates also other innovations in higher education, e.g. multi-campus and international learning

The following examples in various European countries illustrate current university policies and strategies as registered in the interviews.

> In *Finland,* Institutional strategy plans are a result of performance agreements between the Ministry and higher education institutions. A main goal is to secure the competitiveness of Finnish higher education by collaboration with excellent research groups and to develop the Finnish key competence areas (e.g. biotechnology, clean tech and ICT). In general increasing

digital pedagogy at Finish universities can be described as being top-down led as it is included in the strategic policy papers. However, innovative practical solutions usually come bottom-up from teachers themselves and are encouraged and supported by the leadership.

Opmerking [E6]: Might need some elaborating

institutional strategies increase the quality and performance of digital learning environments. They are also supporting intrenationalisation by English taught courses to attract more international students.

For *Danish* institutions, the institutions have no ambition to move fully into online education or to initiate large ventures into MOOCs. However, there is a broad consensus that educational programmes should move in the direction of blended learning. Educational technology is felt to be increasingly relevant and necessary in order to accommodate student needs.
The process of developing new pedagogical initiatives is mainly driven by individual teachers, improving their own teaching. In most institutions, it is finally up to the teacher which teaching methods should be applied. Insitutional strategies are considered as frameworks for local development and local initiatives for teaching development and the use of educational technology.

As an example, one of the universities went through a strategy development process a few years ago, which has led to a number of guiding pedagogical principles for active learning. Each faculty then developed local models based on these principles, and all teachers were expected to consider these principles for application in their own teaching.

Another example is a university that is working on an institutional strategy for the digitalisation of education, at the same time expressing a respect for the individual choice and preferences of the teacher for using technology in their teaching.

Another university has developed a strategy promoting problem-based learning, supporting this strategy through project funding grants for local initiatives with problem-based learning. Furthermore, they organise annually a local conference, presenting examples of good practice from these initiatives.

One of the university colleges in *Denmark* is working towards implementation of ICT in all degree programs. In 2015 all educational programs started working with an annual local strategic plan for digital learning, involving the management, teaching staff and students in an effort to lead the emerging use of technology by teachers and to create a joint effort to rethink teaching design. As a result, all degree programs today have a clear strategy on when, why and how technology can and should be used in teaching including blended and online courses, problem-based learning, the flipped classroom, peer assessment, collaborative projects and practice, etc. The plans for digital learning result also in a “map” of teaching skills regarding educational technology and teaching design. This allows the local

management to plan ahead and ensure the necessary training in new pedagogies dealing with technology.

In *France*, many new opportunities have been arising through restructuring the university landscape through mergers. This merging dynamic has two consequences on the approach to teaching: favouring collaborations between faculties and breaking down traditional walls between different teaching methods.

AMU (Aix-Marseille University) was one of the first to be successful in the French excellence initiatives (IDEX)[2], AMIDEX. This ensures both the recognition of their excellence and additional funding (26 million euros per year, managed by the foundation in the same name[3]). In addition, the AMU wants to promote active teaching and favours collaborative experiences and practices. The establishment is also considering a blended/hybrid education approach to their curricula, enriched in-class learning and participating in open and distance education (FOAD, open education and study abroad, ODL, open and distance Learning).

Also in Lille, this merger is upported with funding from Idex AMIDEX for which educational reform is a main focus. The strategy of the merging universities in Lille Nord Europe University aims to become a global standard with regard to pedagogical developments based on digital technologies within 10 years. They recently opened a teaching support facility, in particular for digital content, the LILLIAD Learning Center Innovation with a strong partnership with the KU Leuven.

Opmerking [PH7]: Has to be extended based on the interview.

In *Portugal*, some traditional (face to face) universities are certainly interested in new teaching practices and develop good practices, but in general there they don't have a broad institutional strategy for online education. Most initiatives are isolated and based on the voluntarism of some teaching staff, but hardly represent an integrated strategy for online teaching and learning. In general, there is no institutional discussion about pedagogical models for e-learning or objectives and techniques for online education. In general, universities haven't a consistent policy, as different concepts and practices coexist, even within the same educational unit.

The educational and scientific mission of the open and distance university in *Portugal* (UAb) is different from other Portuguese universities as it is open and flexible distance education for adult students mainly. Hence, the campus is virtual and teaching and learning are mainly online. The central pedagogical model is student-focused and it emphasizes collaborative work. The added value and uniqueness of UAb is scalability, differentiation and inclusion . By the quality of its pedagogical model, UAb has become a partner of other universities, in particular with regard to educational and technological innovation and the development of some subject areas. Given its mission and teaching model, UAb promotes and leads research in the field of open ad flexible distance education and online teaching and learning. Despite

[2] http://www.enseignementsup-recherche.gouv.fr/cid51351/initiatives-d-excellence.html
http://www.enseignementsup-recherche.gouv.fr/cid101570/pia-1-initiatives-d-excellence-idex.html

[3] Amidex and the Foundation http://amidex.univ-amu.fr/fr/accueil

the legal gaps in the education system regarding distance and online education, UAb is currently a fully online university.

In *Austria,* the spectrum of online and blended education is quite a diverse. The Johannes Keppler universität (JKU) in Linz operates large programs in distance education. Apart from this , online and blended education is emerging bottom up. No elaborated comprehensive strategy for blended and online education is developed yet. Nevertheless, the university is working now on it. Twice a year, there are internal calls for funding for developing online and blended learning. The goal is to align those different bottom-up approaches to a more synergetic co-operation, both in technical and didactical terms. A major result should be the establishment of one organizational unit combining these efforts.

Some measures are incorporated in the performance agreement of KFU negotiated with the Ministry for 2016-2018 like training of e-tutors, running MOOCs on the leading iMOOCs platform in Austria and the development of an OER strategy. In new curricula and courses, e-learning can be easier developed than in existing programs where structures and habits are more difficult to change.

In *Catalonia,* the Universitat Rovira i Virgili (URV) and the Universitat Autònoma de Barcelona (UAB), have no institution-wide strategy for blended or online learning. Both UAB and URV used MOOCs to improve teaching, but they concluded that producing a MOOC is too expensive for the benefits they provide in their case. URV is trying now to implement a standardized approach to blended and online course production across the institution.

It is important to highlight the role of Universitat Oberta de Catalunya (UOC) in the Catalan university system. UOC is the only fully online university in the Catalan system. Historically, it plays the role of catalyst for innovating teaching and learning in higher education through online education in other universities of Catalonia. Most of UOC online tutors are also teachers at other universities, increasing the expertise on online education in the entire Catalan system. Some online programmes in UOC are joint programmes shared with other Catalan universities. This avoids the iteration of the same new online programme in more than one university. Sometimes, two versions of a course (face-to face or blended, and online) are addressed to different target groups of students. The Catalan system, at the end of the day, becomes complementary and balanced.

General observations:

Based on these and other examples of the first CPL 2015 study (Haywood et al., 2015), the following observations are drawn:

- In general, the infrastructure of universities (brick and mortar) and the technologies don't yet reflect the opportunities of digital education.
- The fostering of bottom-up approaches are sometimes not well connected to institutional strategy plans and/or are monitored to have scalable impact.

- At other universities institutional strategies on digital education are missing, hindering a structural and mature uptake of new modes of teaching.
- Mergers of universities, like in France, Finland and Norway, seem to relate to more long-term strategies aiming long term improvements and impacts.
- The existence of a dedicated open and/or online university in a country seems to stimulate educational innovation.

Recommendations:
Based on desk-top research and various country reports the following effective actions are recommended:

- Define institutional objectives and innovation plans as well the impact of new technologies on the course and curriculum level, in line with the common agenda at national level
- Develop strategies for continuous innovation in the institution, involving digital education in faculties and degree programmes, the extension of continuous education and continuous professional development and open education
- Appoint a vice-rector for innovation, showing leadership with the support of the entire board and at all decision levels of the university (cultural change/mind-set)
- Organise internal funding for innovation (grass-root funding, seed money, project funding)
- Facilitate the bottom-up approach of bottom-up from teachers themselves and embed thes e initiatives within institutional strategy plans including support and funding schemes.
- Work with multi-annual operational plans including designing and developing new modes of curricula, relation to provision in CE/CPD and Open Education. Include that the design and development of online/course requires more time than implementing it ; re-allocate resources and tasks to cope with increased workload during development process ; make advantage of scalability of digital education.
- Evaluate if the (institutional) objectives are reached and measure the impact of innovation and new pedagogical models.
- Promote cultural changes and mind-set to support the new institutional strategy

3.2. Relationship between the institution and governmental policy

Opmerking [e8]: We might decide to integrate this section with H5
Or we must reformulate the text in 3.2 and focus here what HEIs expect of governments. Hereto text needs to be rewritten

Developments in digital education have been closely linked to wider developments in, and pressures on, European higher education, and indeed some of the demands of governments, students, funders and employers of what sort of education should be offered by universities and colleges could not be met without deployment of technology. These developments and pressures are:

(i) *Increasing student numbers in all European countries and the need for upscaling higher education, also taking into account changing student demographics* resulting in differentiated needs for degree education, continuous education / lifelong learning and open education at different stages of life[4];

(ii) *The enhancement of quality, meeting the needs of students through student-centred and personalised research-based and/or innovation-oriented higher education[5];*

(iii) *The management of cost: increased need for efficiency while funding per student in higher education has decreased in many countries across Europe*;

(iv) New *educational opportunities of online and blended education, combining solutions for scalability, quality and cost[6];*

(v) *Widening access to higher education[7]* as one purpose of digital education as it can remove or at least minimise many barriers for regular and non-traditional target groups (e.g., disadvantaged learners, migrant students, remote areas);

(vi) *International education and student mobility, requiring the harmonisation and recognition of qualifications* in a digital world without borders / cross-border higher education.

In some countries governmental funding stimulate innovation related to online education or broader related to research, open science, etc. Some governmental policies even have system impact and influences the status quo between universities in a country (e.g., by implying merging and allow universities to uptake new forms of educations)

In *Catalonia*, universities participate in higher education policy through the Interuniversity Coordination Council (CIC). This means they have a strong influence in any initiative that could affect them.

In *Finland,* the Finnish Ministry of Education and Culture, together with other research and innovation operators, will implement a development programme for research infrastructures and services in data management and computing during the years 2017 - 2021. A total of approximately 35 million euros will be invested in the development of data management,

[4] The Education 2030 Framework for Action, adopted at Incheon (Republic of Korea) in May 2015, recognises lifelong learning for all as one of the underpinning principles, stating that "all age groups, including adults, should have opportunities to learn and continue learning."

[5] The growing demand for more student-centred learning to replace current didactic/teacher-centric teaching is also stated in the Yerevan Communique (2015)

[6] Technology has enabled many universities to cope with these changes next to merges and economics of scale. Also, the Digital Education Action Plan of EC refers to the focus on implementation and the need to stimulate, support and scale up purposeful use of digital and innovative education practices.

[7] This relates to open education and the UNESCO Sustainable Development Goal (SDG) 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

computing environments and related services. A new national research information hub is being prepared parallel to the development programme.

In *Austria*, the government invests in the continuous innovation of higher education. Structural Funds for the University Space (called “Hochschulraum-Strukturmittel”), performance agreements (called “Leistungsvereinbarung”) and project-related funds from the Innovation Foundation for Education (called “Innovationsstiftung für Bildung”, https://innovationsstiftung-bildung.at) of about € 50 Mio can be mentioned. Regional policies are an important factor regarding funding too.

The *Austrian* government requests universities to offer more online learning. However, online/blended students/courses are not specifically mentioned in the performance agreements. Online learning is just an overall goal, but is not quantified in terms of funding and other key figures. This is a topic which is currently discussed within the framework of Studyplace Funding (called “Studienplatzfinanzierung”). The amount of study places that can be approved is defined in the performance agreements.
Regulations are based on a standard student, a person that can complete 30 ECTS in a semester. This is not reflected in a distance learning program, where students follow less than 30 ECTS. Universities also raise concerns about the legal possibilities for collecting tuition fees for special programs like distance learning offers.

In *Portugal,* the development of e-learning and online courses seems to be hindered by a gap in the law that affects the development of online courses (and other initiatives). This is associated with the discontinuity of the political strategies regarding innovation and new modes of teaching and learning. Legislative policies on accreditation and recognition continue to see e-learning as a subsystem of face-to-face teaching, not as an equal modality like in many other countries (see Belgium, Flanders). Hence, there is an urgent need for legal regulations and criteria for online and distance education, similar to the face-to-face education. Such a regulation is needed to withdraw online learning courses from a certain “underground status”.

In 2017, the Greek government has regulated that blended and online education can officially be organised in all universities of the country. In fact, this legalisation confirmed already existing practice in many universities, organising "covered" distance teaching. Even the larger universities (National University and National Polytechnic in Athens, and Aristotle University in Thessaloniki) already invest in alternative modes of teaching and learning, as well as distance teaching.). It is expected that this will cause an unprecedented and tough competition. Nevertheless, the governmental policy will have positive consequences to institutional practices in the coming years.

As far as distance education is concerned, the Hellenic Open University is the third university in Greece (45,000 active students in the winter semester of 2017-18).

General observations:

Section 5 will discuss in detail the governmental policies and case studies in last section of this report including the roles of intermediate organisation. Related to institutional perspectives and their vision, strategies and frameworks towards digital education, the following observations are drawn. These are again based on various country reports in this study as well as in the first CPL 2015 study (Haywood et al., 2015):

- In some countries governmental funding stimulate innovation related to online education or broader related to research, open science, etc.
- Some governmental policies even have system impact and influences the status quo between universities in a country (e.g., by implying merging and allow universities to uptake new forms of educations)
- Most universities have influence to governmental policies trough intermediate organisations
- The mature uptake and structured implementation of online and blended education is still hindered by conflicting actions and priorities. These can be related to legislation, regulation, funding, quality assurance, IT infrastructures, performance Agreements, requirements for study-time and -place, etc
- Development of high quality blended education requires governmental policies and strategies, a strong institutional leadership and an academic culture in favour of innovation.

Recommendations:

Based on desk-top research and various country reports the following effective actions are recommended:

- Stimulate the development of a common agenda at regional/national level to be agreed between the stakeholders in higher education that addresses the challenges of the present as well as shaping a roadmap for the future. This agenda should allow sufficient flexibility to develop concrete actions, particularly at national and regional levels (CPL, 2015)
- Institutions should stimulate intermediate organisations to develop reports on the current status of online/blended learning including challenges and opportunities for further uptake related to higher education agenda of that country and addressing conflicting issues.
- Push for alignment of all policies and processes at national/regional levels to prevent conflicting regulations and frameworks. These policies and processes should support and promote innovation in pedagogies and a greater use of technology, and a vision for change should be expressed through national strategies.
- To optimise the implementation of new modes of (online) education and teaching, all policies and processes at national and institutional level (including legislation, regulation, funding, quality assurance, IT infrastructures, pedagogical support for teachers) must be aligned to prevent conflicting actions and priorities. These policies and processes should support and promote innovation in pedagogies and greater use of technology, and a vision for change should be expressed through national strategies (see also Haywood et al., 2015).

Opmerking [PH9]: Not matched to text/cases here above – too broadly formulated recommendations….

4. Institutional implementations of news modes of teaching

4.1. Teaching and learning in mainstream degree education

Hybrid or blended education is to be explored for further enhancing the quality of on campus education and making education more effective and accessible. Blended education also contributes to solutions for the issue of decreasing staff-staff ratios. In blended education, the right balance between face-to-face and online education is sought. This implies the use of new pedagogies. Blended and online education is not just copying on-campus teaching to an online environment, but uses new forms of curriculum and course design to optimise the learning process. On campus universities always will keep an important face-to-face component in the blend, valuing traditional teaching and learning formats combined with online formats. This blend can be very different for bachelor and master programmes.

An increasing pressure occurs to have more flexible offering by degree students, part-time students combining work and study and partly by non-traditional students related to re- and upskilling in a rapid changing society. This gradually will push universities to adapt new pedagogies with a larger online component in the blend to make degree programs (and courses) more flexible and accessible for all kind of students.

4.1.1. Innovative practices in degree education

Various blended and online educational formats are practiced at the course level as well as at the curriculum/program level in degree education

Blended learning combines conventional and digital methods to achieve an “optimal exploitation of ICT and internet” integrated with the conventional technologies of physical material, and co-presence in space and time. The value of blending the two is that digital methods offer much greater personalization, flexibility, inclusiveness and efficiency than conventional methods can, but they have to be used appropriately (Laurillard, 2015).

Blended education is most practiced in on campus programs. Online education is most used in master programs with an international outreach and by open and distance teaching universities, as these programs have to be flexible enough to be accessible for international students and students at work. In many online courses and programs, some face to face components are adopted, e.g. as an introduction to the course or to report individual and group learning activities at the end of the course.

Blended teaching and learning practice in degree education is increasing, primarily because of the ubiquitous presence of digital technology and the increase in the digital skills of both students and teachers. EUA studies revealed that a majority of higher education institutions have established blended learning courses and programmes (Gaebel, Kupriyano et al., (2014), but it is likely that they will always value traditional teaching and learning formats and combine them with online formats (CPL study, 2015). In the EUA study, more than half of the institutions applied blended teaching and learning in 'some' faculties or by 'individual teachers' only.

Conventional universities do not abandon face-to-face education for their bachelors or masters students, even as they increase blended education and begin to offer fully online degrees. In many universities, the development of MOOCs by key staff resulted in broader innovations with regard to

blended teaching and learning at the bachelor and master levels. MOOCs are also a lever for innovation in mainstream degree education.

Opmerking [PH10]: This text needs to be shortened and repositioned to comments after presenting cases

Both examples at course and the curriculum/program level are discussed in more detail here below.

At course level:
The first CPL study (2015) made clear that even within frontrunner institutions only 20% or less of the courses are blended. Moreover, many course models just replicate face to face courses or don't meet the requirements of high quality course design. Despite the widespread uptake of technology, its use is ranging from the provision of digital versions of traditional teaching materials to re-designing and re-developing a course or a curriculum.

Many interviewed universities are using video-recording and podcasting , although some limit the availability of those video recordings to two weeks only. In the flipped classroom format, these recordings are used as preparation for the classroom sessions.

However, the attention for new teaching formats is growing.

In this study, it is noticed that new modes of teaching and learning at the course level are mainly driven by teachers (a bottom-up approach), not by institutional policies and strategies. The focus of this development is on activating and engaging students, thus more on quality and less on technologies, increasingly moving away from a teacher-focused to a student-focused approach. For characterizing their educational profile, institutions use terms such as "active learning" and "activating learning". A lot of developments depend primarily on individual initiatives or small teams and the willingness of the teachers In many cases (e.g. in *Portugal*), innovation arise from teachers' efforts and therefore their impact is felt on particular units or courses and without any institutional policy a widespread dissemination of practices as a whole is missing.

Opmerking [E11]: Need example

In some universities, good examples exist related to active leadership with regard to new modes of teaching and learning, installing innovative policies and strategies, e.g. at the University of Lille, France. Financial support mechanisms and a teaching quality bonus stimulate the innovation in education, e.g. the development of online digital content, MOOCs, OERs but also supporting initiatives (see also next sections).

At open and distance teaching universities, the development of courses and curricula are both a bottom-up and top-down process, always based on an agreed pedagogical model and supported by the continuous professional development of teachers (UAb).

Examples of use of technology / pedagogies for blended and online education mentioned by interviewed universities are related to:

- The flipped classroom, with a focus on online lectures or knowledge clips, followed by interactive classroom discussions with the teaching staff: flipped online language learning[89] and a flipped blended course in mathematics utilizing the smart board and video recordings

[8] Towards flipped online language teaching using the HILL concept

[9] SAMK News. Excitement brings success: http://www.samk.fi/en/uutiset/excitement-brings-success-new-boost-from-online-learning-environment/

- Learning communities for collaborative learning
- Collaborative projects and practice
- Integration of (parts of) MOOCs in blended learning
- Gamification
- 3D virtual labs to develop the digital teaching competences
- Peer assessment supported by ICT
- Examinationss online
- 360º Assessment in Chemical Engineering
- Usage of Youtube or other (social media) platforms
- Simulation rooms for nursing
- Medical skills laboratories
- Virtual court room for law studies
- Design Factory for developing design competencies
- Transformation of expensive laboratories and experiments into digital labs
- Simulation rooms for translation and interpretation
- Lab factory work for the pedagogical development as a new way of work for teachers and support developmental meetings.
- Robotics Lab
- Role-playing

Opmerking [E12]: Need some explanation

Opmerking [E13]: Need some explanation how

Opmerking [E14]: Not clear enough

Opmerking [E15]: Supported by ICT

EXAMPLES

MOOCs or online courses are also used as entrance course for a mainstream degree program. E.g. in Finland. Applicants can take such a MOOC for becoming selected in a study programme. Credits from the MOOC are recognized by the program concerned in case they get the study place. MOOCs or other online courses offer also courses to students who want to develop specific academic skills as compensatory or preparatory education.

Also, examinations are increasingly offered online instead of the traditional handwritten examinations. However, most exams still take place on-campus and not off-campus. Higher education institutions In *Finland* have an electronic test system (EXAM), which allows students to take their tests on campus under controlled circumstances in a special classroom equipped for that purpose. It allows students to take a test when it suits them best and thus this is time-independent and it increases flexibility of studies and contributes to shorter completion times.

It is needed to create awareness on the gap between current practice and advanced course design/maturity in blended learning. Compared to face to face education, course design for blended education is different. This requires new pedagogical models, based on evidence and sound theories on course design and teaching and learning (Laurillard, 2012, 2015; KVAB, 2015). This should be accomplished by creating openness and awareness on the benefits and opportunities of blended learning, based on reports of good practice, reports on concepts, theories and evidence on course design, next to patterns of good practice of course design in the institution(s).

At curriculum/programme level:
Front-runner universities stimulate faculties to develop blended curricula as a joint innovation of all staff concerned and supported by educational and technological services. They do so in order to modernise their curricula and to enhance their quality Observed casestudys from different interviewed universities can be clustered into the following modes:

- Transformation to full online offering
- Simultaneous f2f and online offering
- Joint degrees with elements of online and distance education
- Regional merges and collaboration
- Open degrees

Transformation from face to face to online offering
In *Denmark* the master's in "ICT based educational design" was transformed into a mainly online offering. The programme is based on pedagogical principles of student learning and cognition, interaction, collaboration, guidance, assessment and feedback. This programme attracts students from all over the country.

In *France*, seven Universités Numériques Thématiques (digital thematic universities) are established. For example, The Université Numérique Juridique Francaise" (Digital French University of Law creates teaching resources for the courses and modules in law studies .

Opmerking [E16]: Need some context - elaboration

In *Portugal* there are also examples of face to face courses and programmes which are transformed into online programs, mainly driven by pro-active and innovating staff. This explains great differences in concepts and practices. The absence of a national legal frameworks for online and distance education pushes higher education institutions to a hybrid territory combining a culture of face-to-face teaching, combined with the flexibility and openness of distance education.

At UAb most courses are originally planned, thought through and designed to be taught online. They have also courses offered in conjunction with face-to-face universities where a blended approach is adopted.

Simultaneous f2f and online offering
In *Catalonia*, at UAB, the undergraduate programme on Geography and territorial organization is provided in two ways: face-to-face and online. A number of master programmes are also provided partially or fully online. Similarly, some face-to-face programmes give the students the possibility to take some courses online.

In business studies at SAMK, *Finland*, students have choose either face-to-face classes or virtual classes online in real time. All business courses can be studied online. This has led to an increase of adult student numbers, as it is easier to combine work and studies when studying online. Flexibility has also resulted in faster completion times and better learning outcomes. The quality of final year theses has risen considerably as well.

In *Austria*, JKU offers a full online distance learning law degree program without constraints of time and place (e.g., the Multimedia Diploma in Legal Studies). Students can study the traditional law program and alternatively the distance learning law degree program. Students even can switch between the two modes.

In *France*, the Master of Public Health in Marseille is taught both face to face and remotely. Face to face students can take optionally (1 to 5) online teaching units. This creates opportunities for a multi-campus university as students can study on different sites. The number of students opting for the bimodal curriculum is growing strongly. For example, in Aix-en-Provence, in Humanities and Human Sciences, 400 students study online and 1500 students in a combined mode.

More flexible, blended curricula

In *Greece*, the Executive Master of Business Administration of the University of the Aegean has launched a blended education format, with a powerful and rich course management system.. The programme has invested in synchronous and asynchronous e-learning services. It supports the management, storage and presentation of teaching materials, independently of the spatial and time limiting factors in conventional teaching, creating the necessary conditions for a dynamic teaching environment. The university is based on several Aegean islands, and the attendance of students to classes is not easy. The adoption of e-learning into the traditional teaching process provides new opportunities for students and allows for new means of interaction between students and teachers, through a contemporary technological top environment.
In terms of organisation, changes in the design and delivery of the programmes have resulted in the organisation of special units for the support of online distance and blended education this and other universities.

Joint degrees with elements of online and distance education

In *Austria,* the Teacher Training Program for Secondary Level General Education has been reorganized. The unification of teacher education started in 2013. Four regional clusters of universities have been formed that offer a joint teacher training program. Modules must be studied at different member institutions of the cluster. However, smaller higher education institutions are not able to offer each and every module. For this purpose (more) distance education is needed. This will particularly concern the master degree program which will be available in 2019. Bachelor graduates will start their school teacher career and they have to combine this with studies for a master degree. Only blended or online distance master programs will be flexible enough to offer these master programs for teachers in schools.

In Catalonian universities, initiatives are carried out focusing on re-designing curricula in order to become competence-based and to use technologies for active teaching and learning. Some online programms of the Universitat Oberta de Catalunya (UOC) are joint degrees shared by UOC and another Catalan university. The iteration of the same online programme in more than one university is unnecessary. The two versions (face-to face or blended, and online) are addressed to different target of students by different universities. The system, at the end of the day, becomes complementary and balanced.

Regional mergers and collaboration

In Spring 2017, the Tampere University Foundation (*Finland*) established the Tampere New University as a merger between the University of Tampere, the Tampere University of Technology and the University of Applied Sciences (TAMK). The purpose was to develop a strategy for high-level international research and education. The new university is due to start its operations at the beginning of 2019 as a university of the future, allowing students to choose courses from all three

universities and offering integrated curricula. A virtual hospital will be created where medicine and nursing can learn clinical skills.

In Lille, three universities (Law & Health; Science and Technology; Humanities and Social Sciences), were already linked with each other in eight schools[10], have been merged into one institution in January 2018: Lille Nord-Europe University[11]. The merger is supported by the Minister of Higher Education and Research. Part of the investment is labelled 'I-Site'[12] and will receive 15 million euros per year for 10 years. Developing innovative teaching and learning approaches and digital resources will be the central idea. The Centre for Educational and Digital Innovation will stimulate concertation between the three graduate and collaborative development and co-use of courses and curricula.

Online distance education

The CPL(2015) study already observed an increased diversity of the student population with a wider socio-economic and ethnic origins of students, and part-time students working alongside their careers. Open and distance teaching universities support students by more use of technology to enable greater time and place flexibility for study and pedagogies are being re-thought and developed to meet new needs.

In *Greece*, the Master's programme "Language Education for Refugees and Migrants" (LRM) of the Hellenic Open University is a completely online study programme. Collaborative learning is at the heart of the design and implementation of LRM and its slogan is "collaboration - co-construction - reflexion". Students actively participate in the choice of learning activities and are invited to comment on existing resources with the view of changing them, improving them in the next semester of study. Social media play an important, complementary role in the courses. Traditional exams are replaced by micro-projects. The Master's uses English is the language of tuition and this has contributed to the presence of 30% of students not living in Greece. The LRM Master's degree was awarded the quality and innovation Label of the Ministry of Education in 2017.

4.1.2. Challenges and opportunities of new modes of teaching

In a force field analysis, the EADTU-ENQA PLA (2017) stated positive factors for innovation in new modes of teaching and learning, supporting the development of blended teaching and learning implementation in degree education are: a strong educational leadership in front-runner universities; the strong presence of digital technology and learning environments at universities; well-developed digital skills of students and teachers; good practices in blended teaching and learning already in place; the experience with MOOCs as a lever for innovation; the need for enhancing quality for large student numbers. These positive factors are important for anchoring change processes.

Negative factors were: academic culture not in favour of innovation; attitudes of students and staff towards online learning; leadership not engaged for innovation by blended teaching and learning; no

[10] *Faut il traduire ?* Lille's central school; ENSAIT; École nationale supérieure d'architecture et de paysage de Lille; ENSC Lille; ESJ Lille; École des mines de Douai; Sciences Po Lille; Télécom Lille

[11] https://www.univ-lille.fr/ and https://www.univ-lille.fr/du-projet-a-la-fusion/les-membres/

[12] https://www.univ-lille.fr/pages-speciales/detail-actualite/news/une-dotation-de-500-millions-deuros-pour-construire-luniversite-de-lille/?tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail&cHash=fedda6dc23e5484b22db91d963a24d11

institutional policies, strategies, concepts, frameworks; misconceptions on blended/online teaching; blended teaching and learning competences of staff not enough developed; no adequate solutions for the changing roles of staff; partial innovations only, no maturity model; no incentives for career development; no substantial budget allocated for innovation.

It was emphasised that strong governmental strategies support innovation. When governmental strategies are weak, universities don't feel the need to change and inertia will hinder change.

A key barrier for pedagogical development at universities is that there are few incentive structures and therefore there is only limited perceived value for teachers/researcher to focus on teaching development. Further, innovative educational practices are often initiated bottom up by passionate teachers, and the practices are often not embedded broadly within the institution.

Next the following aspects are mentioned many times as critical for implementation of institutional strategy plan. Digital education requires new educational models and a new mind-set. Staff fears a higher workload. Staff support is needed. Digital education should be incorporated in the quality assurance system of the university. Universities face capacity problems with regard to staff to innovation (small number of faculty members, small numbers of professionals).

Funding is one of the main instruments to stimulate the institutional development of universities with regard to teaching and learning, but creating space for innovation in the career development of teachers is a challenge as well.

Opmerking [PH17]: Need repositioning in uniform structure with comments after observation and recommendations.

In this study, the following challenges are found:

- Institutional policies on online / blended education
- Innovative climate - workload
- Support structure in Digital and Media competence
- Quality of online provision
- Teaching career versus research
- Legal issues and personal rights
- Lack of study/legal frameworks
- Question of costs versus scalability
- Barriers to international education in new teaching and learning modes
- Making study more efficient for students

Institutional policies on online / blended education

Opmerking [PH18]: We have many examples out of country reports. In total this is now over 6 pages. We are reworking this text such that the main observations as presented in various country reports are embedded in overall context with recommendations

Shortly some observations

……..

And recommendations…..

……..

Innovative climate - workload
Shortly some observations
……..

And recommendations…..
…….

Support structure in Digital and Media competence:
Shortly some observations
……..

And recommendations…..
…….

Quality of online provision
Shortly some observations
……..

And recommendations…..
…….

Teaching career versus research
Shortly some observations
……..

And recommendations…..
…….

<u>Awards as external motivation factor</u>
Shortly some observations
……..

And recommendations…..
…….

Legal issues and personal rights
Shortly some observations
……..

And recommendations…..
…….

Lack of study/legal frameworks:
Shortly some observations
……..

And recommendations…..
……..

Question of costs versus scalability
Shortly some observations
……..

And recommendations…..
……..

Barriers to international education in new teaching and learning modes
Shortly some observations
……..

And recommendations…..
……..

Making study more efficient for students
Shortly some observations
……..

And recommendations…..
……..

4.1.3. Support structure for new modes of teaching and learning

One of the major strategies with regard to innovation of education and the more mature uptake of blended and digital learning, concerns the development of new expertise on blended teaching and learning within the institutions and the continuous development of staff. The training of staff and support structures is frequently organised at an institutional level, but some training and support structures are provided by cross-institutional initiatives and even at national level supported by governments. Teaching and learning departments play a pivotal role in this.

Opmerking [e19]: Section 4.1.3. needs editing

The following cases illustrate the variety on how support structures are organised.

> In *Denmark* all universities have pedagogical centres and have developed introductory teacher training programmes for assistant professors and postdocs. Mandatory teacher training programmes are established at all institutions. Further, the institutions continuously offer introductory courses to new educational technologies. At some universities, educational technology is mandatory within these programmes but most often, these courses are voluntary. University colleges also have dedicated pedagogical units that support

research and implementation of new modes of learning. A general principle for all institutions is that, in the end, it should be up to the teacher which specific teaching methods should be applied. The institutions in *Denmark* state that there has been an increased focus on staff development within the last few years.

In *Austria* bottom-up approaches as well as institution-wide strategies are accompanied by centralized support structures. Staff development is an important factor, from a technological, a media competence as well as a didactical point of view. Legal issues like privacy and copyright are main topics too. This next to certain study fields more suitable for online education targeting for more flexible study arrangements (e.g., Teacher Training Program for Secondary Level General Education, Fundamentals of Theology). The support structures ranges from technical support on ict tools (VLE/LMS, assessment tools, wikis, web conferencing), media production and distribution (podcasts, video streaming and recording lectures) to online surveys, e-portfolios and e-assessment tools. Some support structure (e.g. KFU) are related to quality enhancement and workshops and consulting services for teachers (educational) technology, a collection of media-didactic models, guidelines and tools as well as an e-portfolio platform.
In the region of Styria nine higher education institutions have joined forces by implementing "eDidactics", a regional continuing education program for university teachers in that region that focuses on the usage of new modes of teaching and learning in higher education. KFU acts as a host. This initiative could work as a model for a nation-wide program.

In *France*, there is a tension between the centralization or decentralization of support services, depending on the nature of the service. Three types of assistance must be defined in this respect: technical, administrative and pedagogical engineering. Lille 1 has an Education and Multimedia Service, the SEMM which is made up of 20 staff and which provides technical (audio-visual, multimedia development) and pedagogical engineering assistance. Training and support are guaranteed by the university education service (SUP), who opened a Teaching Practices Support Centre (CAPE), which employs 3 people. The infrastructure and hosting are centralized in an IT resource center (CRI).

In *Finland*, the current focus in staff development is on pedagogical, digital and online and blended learning skills. A case in point is the introduction of digi-mentors or peda-agents, trained staff members, to support their colleagues in making better use of digital teaching and learning tools as well as in pedagogical design of online and blended learning. In addition to this collegial help, there is also an online service (helpdesk or alike depending on the institution) where teachers can ask advice or suggestions from experts when they are planning or building an online course. This service is also available for students in their technological problems.
Teachers do short experiments with relative high risk. In those experiments, new modes of teaching and learning are explored. There are several experiments going on at the same time. This is a quick way to accumulate information. Experiment results and good practices are shared in pedagogical exhibitions, peda-agora or alike depending on the institutions.
For online teaching and learning there are various programs available that higher education institutions use, Adobe Connect Pro, Webex, or Hill (SAMK) just to name a few. They allow students to attend lectures online, work online in small groups and be assessed as a group.

In institutions in *Portugal*, the training for eLearning is mainly technical and ict-related. However, there is a clear concern about the need for more training in the eLearning pedagogy component.

In *Greece*, the HOU has a well-developed strategy to support the continuous professional development for its staff, teaching and administrative. The development initiatives take the form of seminars, webinars and regular structured training.

In *Catalonia* there is no planned and/or organized training on new pedagogies and distance/online teaching at one interviewed university, although new modes of teaching and learning are incorporated in the institutional quality assurance framework. New initiatives on new pedagogies are mainly born from the School of Education, Palaeontology and Medicine. The insertion research-teaching is quite difficult. There are economic and personal lacks of resources. The university has maintained a quite conservative vision of teaching and learning. In 2011 they considered to have a blended alternative for some programmes.
However, URV has approved an institutional-supported model for online teaching. This model pursues to provide the Departments and the teachers with guidelines to develop online programmes and courses that would have an "institutional" footprint. It has been elaborated by the SRE (Serveis de Recursos Educatius; Educational Resources Service), which is charge of supporting teachers in this digital initiative. Although the existence of this model, there is no compulsory statement to deliver teaching in this mode neither in any other beyond the general URV Teaching Model. At UAB, the Undergraduate Programme on Geography has a special unit devoted to online education (Autònoma Interactiva Docent). The main reason to foster online and blended education is the growing number of prospective interested students from Latin America.
In both universities there is an institutional LMS, which is used to deliver online programmes or the online part of the blended ones. Both institutions have a huge activity there, both with fully online courses belonging to a online or to a blended programme, or as a complementary repository of resources and communication means for the students in those programmes practicing a flipped-classroom approach.

General Observations:
The examples of various European countries illustrate the universities are serious in supporting teachers' digital competence, the organizational adjustments, and integrating monitoring and feedback cycles (see previous section on Challenges and opportunities of new modes of teaching - Support structure in Digital and Media competence).

In some universities there are well-established central digital education services, and the presence of technical and pedagogical advice services for academic staff, with a new cadre of professional (support) staff employed in these areas. In most universities the support structure has a strong technological and digital competence component. In most universities the support structure is organised around the central virtual learning environment (VLE or LMS) with a 'halo' of educational applications (embedded in the VLE or separate) including formative and summative online assessments, assignment submission systems, lecture capture, wikis, blogs, virtual classrooms, messaging, and plagiarism testing. For most universities linkage to the (increasingly) digital library is a key element of this digital learning environment. Alongside the purely digital, classrooms and other

learning spaces are becoming technology-infused with capture and presentation equipment becoming more common, and student group study facilities with embedded technology appearing in most universities.

Training and support structures should go beyond the technical skills and must incorporate the digitals and pedagogical skills of teachers. Some support structures for new modes of teaching and learning are even organised at cross-institutional level (e.g., Austria and France) or at a national level (see SCORE2020 project).

Recommendations:
Based on desk-top research and various country reports the following effective actions are recommended:

- Empower teaching staff by continuous professional development on blended learning and innovation, using a maturity model. Teaching and learning departments organize CPD for teaching staff. This should include digitals and pedagogical skills of teachers!
- Have a critical look on what level the support structure should be organised. Some support might best done at a faculty level, others at an institutional or even at a cross-institutional level;
- Teaching and learning departments learning support staff in course design teams and identify patterns of good practice in their institution and in the partnership
- Create peer groups and subject area networks
- Teaching and learning departments are organizing institutional evaluation and research on the design, implementation and effects of blended teaching and learning
- Develop multimedia labs.

4.2. New modes in open and flexible education

This section discusses first the role of digital education in continuing education and CPD including the how short learning programs can enhance the more scalable and systematic offering. Thereafter, policies on recent forms of open education are discussed. This relates to OER and MOOCs that are offered online only, for free providing massive and open access learning opportunities for all, promoting engagement in the knowledge society.

4.2.1. Continuing education, CPD and Short Learning Programs

Increasing needs for lifelong learning and continuing education

According to labour experts, the risk that qualifications, obtained by degrees in initial higher education, become obsolete is increasing by the digitalisation wave in the economy and by longer careers. European estimations demonstrate that more than 25% of the 30- to 55-years old employees struggle with this problem. Hence, this is also a social risk. Economic research shows that not following continuing education is an early good predictor for job loss. Unemployed people have less chance to find a durable job. In relation to the increasing age of retirement, the social risks will become more pronounced and in parallel, the needs for continuing education and CPD as well (Sels, 2017).

EU2020 fact sheets of the EUC Education and Training Monitor (2017) reveal indeed that neither the EU attainment objectives for higher education nor for lifelong learning are achieved and that there are dramatic differences between member states, although progress is made. In 12 EU countries, the employment rate of recent graduates is below 75%. Moreover, 40% of the employers face problems with recruiting workforce with the right qualifications. The EU employment rate is 53% for low-skilled young people and 80% for high-skilled. Actually, recent research shows that the medium-schooled group is most vulnerable, e.g. in Belgium: 36% of the vacancies in 2004 required a medium-level schooling, now it is only 24% , while still 35% of the job seekers have this profile; 33% of the vacancies require a HE degree, while only 18% of the job seekers has this. Likewise mismatches can be seen in other EU countries and the US. Education and training become more important to fulfil the requirements of the open vacancies.

Opmerking [e20]: Needs to be shortened and repositioning related to uniform structure.

Also, knowledge from school or university becomes rapidly obsolete, even more as careers become longer. The needs for education and training in the 28 EU countries are immense and the levels of participation in education and continuous education across the EU are very different.

Related to scalability and the use of digital tools, the next subsection discusses the possibilities of online/blended short learning programs. In addition the two following examples illustrate other use of technology for CE/CPD:

Opmerking [e21]: Missing examples of relevance. Two below might be usefull (?)

Short Learning Programmes (SLPs) for CE/CPD

Opmerking [e22]: Not explicitly asked in country reports but added as of importance. Might need some additional examples

In the area of continuing education, the deployment of online/blended Short Learning Programmes (SLPs) is seen as an important scalable solution. Short Learning Programmes are organized around a specific topic, responding to the demand of large numbers of students for a shorter study and to immediate economic knowledge and skills requirements in enterprises, to cultural, social and environmental needs and personal development in society. They vary in number of credits (largely between 5 and 60 ECTS). To be effective, SLPs are to be developed in a coherent design with specific pedagogies, adapted to the target groups envisaged and preferably in collaboration with stakeholders (businesses, innovation managers, etc.).

By its flexibility, online approaches will make SLPs accessible at a large scale to meet huge needs of the economy and society. The online provision of SLP`s makes them even more scalable and flexible. They facilitate the accessibility of a series of courses by learners and can be taken in combination with a job at all stages of life.

Examples of online SLPs are seen in both in traditional and in open universities. Open universities from their origin organize flexible education for students at work. They have developed pedagogical and organizational approaches for reaching out to these students and they are used to large scale operations. Traditional universities are also developing strategies for a systematic approach to continuous education involving flexible and therefore online solutions. Some frontrunners build a kind of extension studies structure.

The Open University has a long list of online provisions leading to postgraduate diplomas (typical 120 credits), postgraduate certificates (60 credits) and single modules (typically six to nine months' part-time study). Also the university of Edinburgh offers the possibility to get qualifications related to completed credits of online master programme towards an alternative postgraduate qualification. For example in Climate Change Management and Public Health. Universitat Oberta de Catalunya (UOC) offers online SLPs, for example Food Security Programme Management, Language learning and technology next to offering of UOCx.

Opmerking [PH23]: Needs some elaboration

At the Technical University of Delft, a policy and strategy framework for continuing education was developed on the basis of a vision shared by the Board. This includes professional courses and programmes online, leading to certificates and diplomas. Teaching "professional" learners was a completely new area for a brick and mortar university. In a first phase, the focus was on single courses e.g. (a professional education course, a MOOC, etc.). In a second phase, courses were grouped into short learning programmes, in diverse areas and awarded with a qualification (e.g., certificate, diploma). Courses are open and online, trying out things on purpose, in practice at bachelor or master level. ECTS are used, CEU (continuous education unit awards) when only attendance is required.

In *Greece*, next to HOU, the University of the Aegean and some other small or medium size Universities, such as the Universities of Thrace and of the Ionian Sea started in 2017 to offer online courses for continuous education and lifelong education. Additionally, the e-Learning Center of the University of Athens has to be mentioned, as it offers hundreds of online short learning courses. So, the most historical and one of the biggest Universities in Greece has deliberately entered, since 2015, the world of online higher education (not for entire degrees, but for continuous education).

Challenges in implementing online/blended SLPs

The implementation of SLPs concerns European Qualification Framework (EFQ) levels from foundation to postgraduate levels. SLPs should be awarded with appropriate qualifications (e.g. certificates, diplomas), corresponding with the EQF. In this way online/blended SLPs are flexible and scalable to serve large numbers of learners, which is necessary to close the knowledge and skills gap in Europe. It is needed that SLPs must be regarded as building blocks to formal degrees. Students should get the possibility to integrate credits obtained by SLP modules and courses as building blocks in broader degree Programme. If SLPs are not recognised appropriately, students might be afraid

that it is not valuable or less valuable. Recognition should build trust both on the labour market and in academia.

As such digital learning and the development of (online) SLPs should become part of the Bologna process in order to promote developments in all European countries. Next to initial education (bachelor-master), SLPs (foundation to post-graduate) should be part of the European Higher Education Area. It would give students trust in all higher education provisions, also at the post-initial level. Hence, a common understanding on these programmes is needed. Public authorities (governments, EU, regions) fail in their engagement to implement policies and strategies, frameworks, national recognition, standards, funding incentives, guiding universities to a large scale deployment of continuing education. Developments of a national and European policy framework and strategies for continuing education/ continuous professional development is urgent needed.

In this respect quality is essential for continuing education and SLPs as well recognition and accreditation. SLPs need to be responsive to immediate needs. Therefore, ex-post procedures are most important as ex-ante procedures might slow down the planning and implementation of SLPs. As such it is recommended to apply institutional accreditation rules for the area of continuing education / continuing professional development. Trust the institution and its quality assurance processes. As such individual a priori accreditation (rules) of SLPs should be avoided.

Some challenges as discussed above regarding SLPs are (see also EADTU-ENQA PLA on Quality, 2017)

- Mind-set/ institutional policy and culture
- Governmental and European policy
- Lack of expertise in online education
- Additional workload for teachers
- Quality procedures versus response to market / social needs
- Recognition
- Accreditation (SLPs should also meet short and medium term needs for innovation in the economy or society. Accreditation rules might slow down this process.)
- Clear business model (generally, universities miss the right business models to develop continuing education/continuing professional development at scale)
- Diversity in offerings (e.g. level, size, certificate, format)
- Finding SLPs / how to market
- Making the connection with the field

The conceptualization and reflection on the role of online/blended SLPs will lead to change in the respective institutions: policies/strategies, staff and student support structures, business models and possible collaborations, and a new mind-set regarding continuing education. This will promote the systemic development of SLPs and CE/CPD as a new area of provision in higher education, next to degree education and open education. For this development, funding and optimized business models are important. Probably, student numbers in this area will exceed numbers in degree education.

Opmerking [e24]: Needs reformulation / better line of reasoning

Launching the New Skills agenda, the EU Ministers showed concerns about “the level of knowledge, competences and skills in a competitive, complex and multicultural world. Europe is also affected by periods of low economic and employment growth, an ageing population, as well as increased migratory flows and low levels of innovation”. The Ministers agreed that it is “important to go

beyond the immediate needs of the labour market and focus also on those aspects of education and training that are able to drive innovation, entrepreneurship and creativity, shape sectors, create jobs and new markets, empower people (including the most vulnerable).

Opmerking [PH25]: Repositioning to comments after observation/conclusions

Current offering in lifelong learning and continuing education

At this moment the offering of universities in continuous education and CPD and diverse, very fragmentised and not always flexible and scalable. Generally, European universities are not used to offer continuous education/continuous professional development at a large scale. The focus of faculties is on initial learning, not on continuous education. Most existing initiatives for continuous education are too small and not scalable enough to face the needs of companies and of society at large.

Most European universities already organize a range of certified continuing education or professional development programmes across all faculties. They are academically or professionally oriented. These programmes are mainly face to face, on a fixed day (e.g., friday or saturday). Many of them are short programmes, awarded by a certificate or a diploma. They reach small numbers of students as they are often not flexible enough to be attended by students at work. Many universities make special arrangements for working students in evening and week-end classes. In this case, more students are attending these courses, but these solutions are neither scalable, nor enough flexible enough to meet the needs in the economy and in society. Moreover, most CPD offer lacks a coherent framework related to for example the European Qualification Framework (EFQ) qualification levels, but also related to topics and themes most relevant for European economy and the re- and upskilling of people.

Scalable, online continuing education and continuous professional development

Changing times need new solutions, touching upon the structure of higher education provisions. There is a need for investment in lifelong learning in European societies, in particular in continuous education / continuous professional development. All member states need to extend their provisions. Digital higher education is not an end in itself, but it will create a new environment for an increasing number of students following continuing education. Large scale and flexible digital continuous education and CPD are a key solution.

Online education will upscale the area of continuing education (CE) and continuous professional development (CPD) by offering flexible courses and programmes with a larger outreach responding to the needs of learners at work, who face longer careers and career shifts.

Based on desk-top research and various country reports the following effective actions are recommended:

- Appoint a vice-rector for the development of the area of continuous education / continuous professional development and support massively this leadership
- Develop institutional policies and strategies for the large scale development of continuous education / CPD in the university
- Create a culture of innovation by inviting subject area leaders to develop SLP's for innovation and motivate teaching staff for continuing education / continuing professional development
- Invest in a university extension structure
- Integrate the European Qualification Framework (EFQ) in institutional CE/CPF offerings
- Create scalable offering in CE/CPD making use of digital education.

4.2.2. About open, online and distance education

About online and open education

In online (and distance) education, learning is a result of online-facilitated experiences that are not constrained by time and/or distance. The label "online" applies to the delivery of course material as well as ict-mediated teacher–learner and learner–learner interactions. Lowenthal, Wilson and Parrish (2009) showed that online learning is an evolving concept consisting of a wide variety of course designs and formats, going well beyond a one-size-fits-all learning model.

It is important to recognise that online education is not the same as *open education*. The aim of open education is to increase access to and successful participation in education by removing barriers and offering multiple ways of learning and sharing knowledge. Open education is a new area of activity for almost all universities that have taken up the challenge of MOOCs and OERs. Open education by OER and MOOCs are tackling the cost barrier by providing education(al material) to "anyone with an internet connection can access it without fee for study". However, openness is not simply a matter of barriers to access related to cost, licences or technological aspects; it also has to do with inherent cultural, social and institutional challenges (see for example Mulder & Jansen, 2016)

Online education in general is seen as a new and flexible way to educate at large scale whilst not increasing costs significantly and even increasing the quality of education whilst keeping total costs low. As such, the educational innovation offered by digital technologies can solve some of the critical challenges of higher education, including removing many (entry) barriers.

Open and online education is also seen as an innovation driver to improve education, and as a base for transforming higher education systems. Online courses, OERs and MOOCs are excellent for promoting lifelong learning as well. They potentially offer a lot of flexibility for people who want to complete their training in a particular subject or who want to gain new knowledge in a specific area.

4.2.3. Open and online education for off-campus (degree) students

Many face-to-face universities consider open and online education as a complementary offering next to regular degree education. Online and open education are modalities that provide flexibility to the educational system.

> The two *Catalan* universities see online education as a means of increasing flexibility to their current and future students, especially those in Latin America. However blended learning in regular degree education is preferred in both institutions.
>
> In many degree programmes in *Finland*, off-campus students can choose whether they come in person or participate in lessons via the virtual learning environment. Open education students take the same courses together with degree students or they can study the same courses flexibly online. They will be accepted as degree students, and they can flexibly continue their studies, once they have earned enough credits. It is possible to study all courses offered also through open education. Open education is free for the unemployed, retirees, staff and students in upper secondary vocational education. Open education which is offered at the Open universities has a small fee (15 €) per ECTS credit. So-called non-stop studies will be increased. Even now, at SAMK business administration studies start five times a year. This enables open education for vocational school learners, who are planning to apply for degree studies after they have gained required ECTS credits. The Ministry of Education

Opmerking [PH26]: Too long – some reformulations needed

Opmerking [e27]: Examples used are all about relation to degree education (and as such should be part of H3) or related tp CPD (4.1).

We need to reposition this sectioni

and Culture in *Finland* gives a certain direction to higher education institutions with funding, but it does determine how universities organize open, online and distance education.

In *Austria* there is no distance learning university. This is based on a political decision of the 80ies taking into account the small size of the country and its higher education sector. Instead, a co-operation with the German FernUniversität in Hagen has been initiated. In 1992 Johannes Kepler University of Linz (JKU, http://www.jku.at) took over the agenda of co-operation with FernUniversität in Hagen. JKU, for example offers a full distance learning law degree program free of time and location constraints and based on e-learning principles (e.g., Multimedia Diploma in Legal Studies). Students can study the traditional law program but alternatively they can enrol in the distance learning law degree program. Students even can switch between the two modes. In addition JKU offers blended learning approach at the faculty level where some courses can be covered by respective modules of the FernUniversität in Hagen (e.g., Multimedia Studies Service in the Social Sciences). From 2018/19 KFU in Austria will offer the bachelor's program in Fundamentals of Theology mainly via distance education.

In *France*, the merging process of universities is dominating the priorities. That merging is far from being a simple process and the establishment is signed up to a set of procedures for at least the mid-term, to leave time for communications and practical changes. The future investment methods on education and pedagogical innovation are included into the dynamic programs in for example Lille and Aix -Marseille. The procedure observed at AMU shows that, by supporting communication across all levels so that they can all be coordinated, it's possible to be successful in harmonizing practices. Open education is still relative new to *French* universities, even though, with the Universités Numériques Thématiques (UNT), the production of MOOCs and free resources has greatly improved. The main challenges are the heterogeneous uses of these resources with regards to disciplines and the difficulties linked to the mode of remuneration for the teachers.

Danish institutions have special further education programmes for non-campus students (non-mainstream programmes) within diploma (60 ECTS) and professional master's degrees (60 ECTS). University colleges can offer diploma programmes, and universities can offer professional master's programmes. Contrary to mainstream programmes, these further education programmes require an enrolment fee supplemented with a grant from the government. These two programmes are not necessarily distance or online education, but most of them are offered as blended learning. For all *Danish* institutions, further education, distinguishes itself from mainstream degree courses, in that distance and online education is significantly more developed in further education.

All the *Greek* Universities have developed or consider developing distance short learning programmes for continuing education. A part of Masters' degrees is offered in distance teaching, too, but not to a great extent. Open Education is not an issue for the other Universities, except for the Hellenic Open University (HOU), which is the unique state University offering distance education. HOU has pursued in 2017 its strategy for the digital transformation. New study programs are offered completely online, and the digital restructuration of the existing programmes is under way. Among the "conventional" Greek

Universities, there is a strong trend for blended education, particularly in the Universities of the periphery (not established in the big cities of Athens and Thessaloniki). A few *Greek* Universities have established special Units, responsible for online distance education, with academic and technical staff. This is not the general rule, though. Two of the four Universities visited do not have any specific organisation for distance education; the University of Athens has one, but dedicated to lifelong programmes. Of course, the HOU is a different case since distance education is its main field of action.

The following examples of three European countries illustrate that open and online education is seen as a promising field for universities both for on-campus degree education (to improve for example quality, efficiency, flexibility and accessibility) and for increased offering for new kind of students related to lifelong learning, CPD by open and online courses and short (learning) programmes.

In *Portugal* open and flexible education is generally seen as an opportunity to reach new students outside the geographic space of the university. Blended and online learning are positioned as a way to reach certain audiences that want to progress in their academic pathways and for continuing education. In addition the creation of more courses, short and for free, generated a greater diversity to reach more target audiences and can establish new agreements and partnerships.

In *Finland*, the strategies of HEIs emphasize an increased use of digital learning environments (hubs), integrating on-campus and off-campus studies as well as attracting international online students. At the moment, all universities of applied sciences in *Finland* offer the same kind of studies all over the country. The Rectors' Conference of Finnish Universities of Applied Sciences (Arene), is creating a model in which the study fields will be centralized online and a university will organise only some study fields. This development will change the cost model of the institutions. The major risk in this development is how well the partners will manage to develop common ICT-solutions for the student administration. In the universities of applied sciences, it is believed that in the future the increasing income will come from the areas of lifelong learning, adult education and international education, not from degree education.

Note that in *France*, restructuring the university landscape through merging universities has shaken up the balance that was instilled by a long institutional (and often conflicting) history. The merging of universities can take three different forms, depending on the decreasing integration conditions : the merging of several establishments to form one establishment, the community of universities (COMUE) and the association between establishments. The universities are committed to undergoing various merging phases and more and more universities are opting for the merging option. This creates many challenges, but also opportunities for curricular innovation, CPD and open education. The use of online courses is likely to increase and new flexible ways of studying will be made available for the students. This mplementation will accelerate if these time and place independent programs result in better learning results, faster completion times and higher graduation figures.

Opmerking [PH28]: Needs strong reformulations

4.2.4. Open Educational Resources

Open educational resources (OER) are generally described as online learning materials that can be retained, reused, revised, remixed and redistributed for free. One of the most internationally recognised definitions is contained in the 2012 Paris OER Declaration (UNESCO & COL, 2012):

> [OER are] teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work.

Examples of teaching, learning and research materials are textbooks, syllabi, lecture notes, assignments, tests, projects, audio recordings, video recordings and animations. Another term frequently used in this context is open courseware (OCW), whereby all of the materials used in a course are published as OER. The key issue here is that OER by themselves do not fully comprise education. Additional, complementary components are required. OER are only part of education and as such are just one element of an online course (i.e., only the learning materials). Also, OER do not comprise all aspects of open education - i.e., OER focus only on the removal of financial and legal barriers (by being free and openly licensed).

An overview of OER initiatives is provided by the OER Worldmap. In general universities interviewed have an interest / will to use and produce OERs. But in many cases the actual use and production is limited.

A recent publication of IPTS on Policy Approaches to Open Education lists case studies on open policies of 28 European countries. It should be noted that different supporting policies exists related to open education, OERs, open access and open science policies. One of the conclusions is OER should be considered as a part of broader vision and policies on open education. In policies, open education is often still limited to OER only. The vision on open education should be broader, beyond OER and open content. IPTS recommends that "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 member states" to promote open education and OER.

Opmerking [PH29]: Repositioning after observations/conclusions

The following examples of various European countries are illustrate those conclusions of the IPTS report:

> *Austria*: "Open Education Austria" is a collaborative initiative of the Austrian universities to develop a national infrastructure for creating, sharing and using open educational resources. Open Education Austria was launched in June 2016 with a grant of the Ministry of Science, Research and Economics. The expected completion date is December 2018. The mission of the project is to boost the overall quality of teaching and learning in Austria, as well as to expand access to best practice in research and education.. The goal of this project is to design OER which can prepare students for admission to studies in life sciences and STEM fields. They can also be re-used in teaching.
>
> In *Finland*, higher education institutions produce use and many OER. The Ministry of Education and Culture advises institutions to use OER. Connected with this, open science is

one of the spearheads of Finnish science policy and it is promoted by all means. The Ministry has outlined that Finland will become one of the leading countries in open science and research. The objective is to have open access to all scientific publications by 2020, including references to OER.

In *France*, the universities produce many open educational resources through the UNiversités Numériques Thématiques.
Another example is the SEMM at the University of Lille, which produces digital resources for blended on campus education and for distance education, in particular videos. These are distributed through a podcast (https://pod.univ-lille1.fr/) which has replaced the establishment's WebTV (700 available videos). Free access to these resources varies depending on the school. Some teaching staff have been reluctant to make their material available. Others don't want to use someone else's materials. However, the video production can't meet the demand of teachers. The different schools in the university agree that it's necessary to share practices, particularly through the Centres for Educational Innovation, building on the initiatives of staff.

Opmerking [PH30]: Some additional tekst needed

Opmerking [PH31]: Quid?

In Catalonia UAB participated in the OpenCourseWare (OCW) initiative. However, at the institutional level, there is no strong OER policy. Some teachers who create open resources upload them in the library or in the so-called MDX (Materials Docents en Xarxa, Networked Teaching Materials, www.mdx.cat).. One of the most important barriers to publish OER are the doubts regarding the open licence copyright. This is affected by research policies, as researchers' competitiveness is measured by publications in non-open indexed journals. Although this reality, most of the interviewed people consider that a public university should make visible what it does and provide open content.

In *Denmark* there are no significant strategies or practices among institutions with regard to OER. There are examples of re-use of courses across degree programmes. When asked about the further development of OER, a university colleague responds: "I am doubtful, that we as an individual institution will ever produce large quantities of OER. This will most likely be a joint UC/University effort"

OER in *Portugal* is very much a bottom-up approach in which professors have organized themselves in an open platform to make their resources available. Recently an update of this open platform was created allowing to allocate a forum, given the importance and success of this resource.

4.2.5. MOOCs

About MOOCs

MOOCs are online courses designed for large numbers of participants, which can be accessed by anyone anywhere as long as they have an Internet connection, are open to everyone without entry qualifications and offer a full/complete course experience online for free (Mulder & Jansen, 2015).

MOOCs are offered online only, providing massive and open learning opportunities for all, promoting engagement in the knowledge society. It should be noted that whilst most MOOCs are offered at no charge, some are fee-paying for certain learning activities, e.g. the final assessment or examination (for which credentials might be available).

MOOCs are a form of open education offered for free through online platforms. With MOOCs, open education meets online education, and vice versa. The massive dimension of MOOCs requires the scalability of all educational services delivered. This has resulted in an important digital innovation.

A MOOC differs from a "regular" online course in at least four aspects:

- It is designed for, in theory, an unlimited number of participants and as such requires the scalability of the education services delivered by the platform or learning environment.
- It is accessible at no charge.
- It requires no entry qualifications[13].
- All elements of the course provision are provided fully online

Investments in and the uptake of MOOCs are more and more significant worldwide. Class Central reported this in 2017, 78 million students registered for over 9,400 courses developed by over 800 universities. MOOCs are here to stay and they are becoming an increasingly important part of our educational system. Consequently, a considerable number of people see MOOCs as a serious option in their (continuous) education. The annual survey on institutional MOOC strategies In Europe, coordinated by EADTU/OpenupEd is now available for the fourth year and will elaborate more extensive about the current status in Europe.

The following examples of various European countries illustrate recent developments.

> In *France*, many universities are connected to MOOC especially related to national initiative FUN. There are various motivations for developing MOOCs. A MOOC can profile and promote a university or a university program or it can to be driven by the teachers' initiative. It can respond to a ministerial request, particularly for MOOCs for skills like those related to a computer certificate (C2I). A MOOC can also be the result of a partnership, particularly in the French digital thematic universities (Universités Numériques Thématiques or UNT). MOOCs are also (re)used in mainstream programs and are an instrument to motivate students.
>
> In *Austria* Karl-Franzens University of Graz (KFU) together with Graz University of Technology have created MOOCs in Austria. Both universities established the first and only Austrian platform for MOOCs, called iMooX. It is based on project funding of the regional government of Styria. This early engagement in MOOCs was seen as an opportunity to experiment and to gain experience with new modes of teaching and learning. On iMooX free online courses are

[13] This does not imply that some prior knowledge is needed.

offered on a variety of topics. All iMooX learning materials are based on the Creative Commons License that allows for free (re)use of the material (and are as such also OER). With regard to the iMooX platform, the Graz University of Technology mainly delivers technical know-how and technical resources whereas KFU is in charge of the development of content and courses . Depending of the course, students gain ECTS points by completing a MOOC through taking an examination. Some MOOCs can be credited against ordinary (elective) courses.
The Austrian Universities' Conference has published criteria and guiding principles for a quality ensured usage of MOOCs. It includes how MOOC (micro-) credits can count against courses and the conditions on how examinations can be taken for MOOCs in comparison with traditional courses. The engagement with MOOCs offers a good playground to experiment and to gain experience and to identify the features of MOOCs and the opportunities and barriers that may arise.

In *Catalonia*, UAB launched some internal calls and they produced and delivered some MOOCs through Coursera. MOOCs were developed as an opportunity to improve teaching through innovation. Finally, it was concluded that producing a MOOC is too expensive for the benefits it provides. Also, URV participated in the governmental programme UCATx (http://ucatx.cat/) for developing MOOCs, but it finally decided to discontinue this as well, because of the perceived costs against the benefits. They considered to devote these resources better to other projects. Only some individual initiatives remain. There is currently no strategy in favour of MOOCs in Catalonia.

The two institutions interviewed in *Portugal* don't have overall policies regarding MOOCs. There are some local initiatives and projects only, where institutions are involved in. These experiments were considered as successful and will be carried out again. In general, the main goal is to gain experience in developing MOOCs and increasing the visibility of the university (using MOOCs as a marketing instrument).

In *Denmark*, none of the institutions have MOOC development as an institutional strategy.. The main reasons for this lack of interest in MOOCs are lack of funding, a low return on investment (e.g. attracting students and branding) and the high competition with regard to MOOC offerings. MOOCs are not felt as pedagogically innovative. Some Danish institutions are offering MOOCs, while a university college has opted to collaborate across SPOCs - for already enrolled students. There are few examples of using elements from MOOCs in regular courses.

In *Finland,* the Ministry of Education and Culture organised special project funding for the creation of MOOCs, which is now ended. SAMK created five MOOCs with some initial funding for teachers (now stopped) while at JAMK four MOOCs were created in the Finnish language. The Open University of the University of Jyväskylä and JAMK University of Applied Sciences developed five MOOCs in English together, sharing content and costs.
Aalto University, which is strong in blended learning and flipped classrooms solutions, doesn't consider MOOCs as a priority.

In *Greece,* the Hellenic Open University and the University of Crete have a strategy for the development of MOOCs. The HOU has created a dedicated unit (with 5 people involved) and

has launched its first 6 MOOCs in 2016 and 2017. The University of Crete produces some very low cost and very popular MOOCs in Greek History and Nanotechnology. There is an enthusiasm about MOOCs in the universities and services visited. Not only for MOOCs produced in Greece, but also for the MOOCs available on the web, in general.

Position of MOOCs in European higher education

Although MOOCs are becoming mainstream at an increasing number of universities, the examples above illustrate that not all universities have a positive experience with MOOCs. However, higher education institutions with a strong involvement and a distinct MOOC strategy in general agree that MOOCs contribute to the core mission of universities by:

Opmerking [PH32]: Reference to Bologna statements of EADTU en EMC

- sharing education with all citizens by open accessibility in a context of lifelong learning (open education),
- transferring and valorising innovative knowledge to enterprises, offering modern ways for students to acquire and evidence skills to employers (continuing education, CPD)
- integrating MOOCs as an enriching learning experience in blended degree education (bachelor, master and postgraduate programs)

MOOCs also strengthen the participation in knowledge created at other universities as part of virtual mobility schemes. Technical universities have already developed a virtual exchange network. Other universities will follow as virtual mobility becomes increasingly important for all students, next to physical mobility.

Universities with a distinct MOOC strategy state that a main MOOC's competitive advantage of MOOCs is their ability to offer just-in-time continuous education/CPD capacity to meet the needs of employers and employees. MOOCs offer a response to the challenge of meeting the needs for flexible knowledge and skills development to cope with a fast changing world.

It is expected that MOOCs will have an impact on the further development of formal higher education and CPD, as well as in initiatives to open up education.

MOOCS and economy of scale / need for collaboration

The production costs for MOOCs and digital education and training in general only break even, when a critical mass of learners is reached. Scalability is a central issue (economies of scale). An efficient national or cross-national collaboration can strengthen the scalability of MOOCs. This collaboration is already provided by the large MOOC platforms, e.g. by the integration of delivery services. As a matter of fact, this leafs out small language areas. Therefore, new national initiatives for MOOCs collaboration are important as well.

This is the reason why cooperation at national level is not sufficient (especially for small language areas). Moreover, it is important to recognise that MOOC development and delivery are best carried out collaboratively, involving interdisciplinary teams across institutions and even countries. There should be adequate recognition and incentives for faculty and institutions to engage in the collaborative development and delivery of MOOCs (Patru & Balaji, 2016).

Examples of challenges at a European, cross-platform and cross-institutional level related to the scalability and efficiency of MOOCs are (see for example SCORE2020, 2017):

- **Cross-institutional support the design and development of MOOCs** (expert seminars, training, guidelines, etc.)
- Support on the improvement of the quality of MOOCs by offering **a quality assurance framework and tools to partners** (quality label, institutional quality review)
- Developing **a scheme for the assessment and recognition of MOOCs** in academia and in companies;
- Develop a **network of regional/national MOOC**, or other educational **support structures** with regard to pedagogical models, the (co-)development and the (co-)delivery of MOOCs, technologies, quality assurance, recognition and business models
- Developing **collaboration models** between platforms, and with training institutes, networks, employment services and companies for MOOCs for the EU labour market;
- Developing a **framework for the organisation of MOOCs** for the European labour market, defining roles of platforms, universities, employment services and companies in t**he (co-) development, (co-) delivery** and use of MOOCs;
- **Raising awareness, aligning and engaging universities, social partners, governments, employment services and companies** on the role of CE, CVT/CPD in closing the knowledge and skills gap and in preparing learners and companies for employability, innovation, career development and entrepreneurship.
- **Empowering** universities, employment services and companies, exploring modes of the (co-)development and the (co-)delivery of MOOCs;
- Developing **collaborative projects** for opening MOOCs and digital education provisions to the EU labour market, e.g. approaches to the co-creation of MOOCs for continuous education/CPD, specific delivery modes of MOOCs by employment services, professional organisations and within companies; the exchange, translation and localisation of MOOCs for implementation in different language areas; the assessment and recognition of MOOC, etc.
- Increasing **accessibility and visibility of MOOCs** and online CVT/CPD for the EU labour market;

Some of these challenges are tackled by the European MOOC Consortium, consisting of Futurelearn (the Open University), France Université Numérique (FUN, Ministry of Higher Education), Miríadax (Telefonica Educacion Digital), EduOpen (Consortium of the University of Foggia with 15 other Italian universities) together with the OpenupEd portal (EADTU) in order to collaborate and to optimise services. These platforms support universities in developing and delivering MOOCs. They represent five networks of universities with more than 280 universities together, reaching out to already 15 million students.

Credentialisation and recognition of MOOCs

Without any formal credits for MOOC completion, MOOCs are just in-/non-formal learning. Moreover, access to higher education system requires in addition that those credits do count as part of a formal degree. Gradually we see a shift from producing MOOCs based on regular courses to a mode where they become a part of formal degrees. In this context adequate recognition framework for MOOCs should facilitate the use of MOOCs in formal learning.

The first CPL study (Haywood, 2015) stated that "The possibility of gaining credit from study on a MOOC does exist, but to a limited extent." And that "MOOCs and other open education appear to be viewed by QA agencies as primarily the responsibility of the institutions offering them as they do not lead to a degree, or to ECTS credits."

In the meantime, this has changed drastically as most MOOC providers are now offering the possibility to get a credit to their course offering. Moreover, they offer various short learning programmes (like nanodegrees, micromasters) and even full online programmes. In addition, this has led to significant increase in quality assurance processes both by the big MOOC platform providers and by the universities offering these MOOCs/programmes and recognising credits given[14].

Opmerking [PH33]: Some examples

A quality assurance framework is an important component for an (inter)national MOOC strategy. Such a framework does not yet exist for MOOCs, as they are a very recent development. Successful quality models exist for online education and can be carefully adopted for MOOCs. The European MOOC Consortium (EMC) will be developing a framework for the recognition of credentials for MOOCs, and by working towards the adoption of that framework by stakeholders across Europe.

Recognition is an important topic in the European Agenda for modernising higher education. It is also a key objective of the 2012 Council recommendation on validation of non-formal and informal learning, which asks Member States to have national arrangements for validation by 2018.

The EMC already proposed – as part of new Bologna process- "*that MOOCs and their role in open education and innovation in higher education should be stimulated and activated by national governments as part of the development of EHEA in order to accelerate strategic efforts and developments in lifelong learning in all European countries. Next to degree education (bachelor-master) and continuous education programmes, open education and MOOCs should be considered as a part of the European Higher Education Area. A working group should be created to align and engage governments and universities in lifelong learning policies, embracing continuous education and MOOCs to meet the needs of the European*"

Opmerking [DJ34]: Reference when published

Why universities invest in MOOCs?

MOOCs are part of the long history of university extension, open education and widening participation initiatives that have sought to extend access to (higher) education (see for example UNESCO-COL publication by Patru & Balaji, 2016). MOOCs, and open education in general, are providing new learning opportunities for millions of people. In addition, MOOCs are a significant innovation in (higher) education. Therefore, whether or not to develop MOOCs is a strategic decision for education institutions. The decision should involve not only experts from various parts of the HEI (e.g., technology, teaching, research, marketing), but also top decision makers.

Several independent European studies conclude that European higher education institutions are strongly involved in MOOCs (>40%) and are using MOOCs to innovate education, to offer flexible learning opportunities and to increase their institutional visibility. Consecutive surveys indicate that the most relevant driver for European HEIs in providing MOOCs are 'Improving the quality of learning' and 'Need for (e-)skills and jobs'.

[14] http://eadtu.eu/documents/Publications/Quality_Frameworks_for_MOOCs_Springer.pdf

These studies also indicate that European higher education institutions seem to be in favour of keeping those massive courses for free, regarding the social and inclusive dimension of European higher education systems. A large percentage of institutions offer MOOCs at their institutional or regional/national platforms. A majority agrees that it is necessary to offer formal (ECTS) credits next to more informal certificates (e.g. a badge of participation). It is suitable, that these formal credits should be recognized in formal bachelor/master programs of the institution that offers the MOOC.

It is expected that MOOCs will have an impact on the further development of formal higher education and continuous professional development (CPD), as well as of initiatives to open up education.

But MOOCs are not only an instrument for educational institutions — essentially, they are related to goals at a general societal level (e.g., increasing access to education), at a regional level (enhancing the circulation of knowledge relevant for local society), and at a learner's level. By the European Commission, MOOCs are seen as a flexible provision to address a number of actions in the new Skills Agenda for Europe. Moreover, they are already used for training on topics and skills related to Skill shortages and gaps in European enterprises (CEDEFOP) and strongly contribute to the "e-Skills for Jobs" campaign of the EC. Not only do MOOCs increasingly provide the right training, the right skills and the right support, MOOC users already perform very well during job interviews.

MOOC offering and relation to governmental funding / institutional policies

Some governments view MOOCs as effective investments for improving HE access, quality and affordability, and for addressing the needs of society. Educational institutions receive funding from their governments or from various foundations to develop MOOCs. In general, these sources provide funding related to opening up education and/or innovation of education. Some governments have even established national MOOC platforms (e.g., FUN, France), are fund feasibility studies for a national MOOC platform (Portugal, Germany).

National policies and funding have a strong influence to the number of higher education institutions in a country offering MOOCs (see for example Jansen & Konings, 2017).

It is also observed that higher education institutions only have a significant MOOC offering (>10) if a dedicated institutional strategy exists for MOOCs and/or open education in general.

4.3. New modes in international education

4.3.1. Increasing internationalisation of higher education

Higher education is no longer solely for national citizens, with both intra-European student mobility and, in some countries, transnational education for those outside Europe, which is becoming an increasingly important part of the economy as an "education export". ICT in higher education is used to expand internationalisation and student/staff mobility, to trial new pedagogical approaches, and to form networks of professional educators around common areas of interest.

Internationalisation is transforming education and research. In 2001 around 16% of research papers worldwide had cross-border authorship, by 2014 that figure had risen to over 25%[15]. The number of international students doubled over the same period to over 4.3 million worldwide[16], fuelled in large part by demand growth arising from the development of the middle class in rapidly growing economies in Asia.

Internationalisation of education is a comprehensive approach to education that prepares students, academics and staff to be active and engaged participants in an interconnected global world. According to the OECD[17], one of the main goals of internationalised higher education is to provide the most relevant education to students, who will be the citizens, entrepreneurs and scientists of tomorrow. Internationalisation is not an end in itself, but a driver for change and improvement.

In general an increasing internationalisation and student mobility is observed in terms of incoming residential students, online/distance students and in-country campuses. International students may provide direct benefits such as an income stream for universities or the local community, or indirect benefits such as an increase in national 'soft power' impact in countries of strategic importance. Internationalization is described in the Amendment of the Act on Higher Education Institutions (2016).

De Moor & Piet Henderikx (2013) describe three different mobility schemes

1. **Exchange mobility**: Students themselves choose to have an experience abroad for a short or longer period of time, at a host institution, according to an individual mobility arrangement between the host and the home institution. The prototypical example here is mobility as funded by the Erasmus programme.
2. **Networked mobility and curricula**: One university, a faculty, department or a specific university programme forms a network with several partners. The 'centre or demanding university' sends its students for a certain period of time to one or more partner institutions, to follow (part of) their curriculum abroad. Examples of ict-supported networked curricula are described in NetCu project, next to handbook and supporting materials.
3. **Embedded mobility and curricula**: A limited number of partners (faculties, departments, programmes) engage in a consortium (e.g. 'ringshaped'), in which students then 'rotate' and follow parts of their educational trajectory subsequently in two or more partner institutions, while students of those partner institutions do the same. The curriculum is fully synchronised. These integrated programmes are mostly leading to a joint degree.

Opmerking [PH35]: This section is somewhat weak.
We need additional examples
Open University, University of London, Edinburgh, Delft, KU Leuven

Perhaps extend with reference to virtual mobility position paper.

[15] Marginson, S. (2014) "The West's Global Hegemony in HE – Nothing Lasts Forever", University World News: 313 March 2014.
[16] OECD (2013) Education Indicators in Focus: "How is International Student Mobility Shaping Up?"
[17] Approaches to Internationalisation and Their Implications for Strategic Management and Institutional Practice A Guide for Higher Education Institutions, Henard, Diamond and Roseveare, 2012

The Bologna process aims to create a European Higher Education Area (EHEA) but does not attempt to unify national educational systems but rather to provide tools to connect them, in order to facilitate recognition of degrees and academic qualifications, mobility, and exchanges between institutions.

Global competition is increasing as new entrants to the international student market are making significant inroads and existing destinations are increasing their investment and attractiveness. The policies of partner Governments will have a significant influence on global mobility trends. While these growth trends are expected to continue, the nature of globalised education is also changing rapidly, in ways which will have significant implications for traditional destinations for international students.

However, in some European countries there seems to be not enough governmental support and/or are national stimulants missing to support internationalization (e.g., in many Eastern European countries and also in Catalonia region) or the ambition is not to increase the number of international students (e.g., Denmark). While in other countries internationalisation is a decision of each university themselves not hindered by legal or financial regulations (see example of Finland and France here below).

Opmerking [e36]: Cross-check with CPL 2015 study

In *Catalonia* UAB does not organise international courses/programmes online yet, but it is foreseen in the university's Strategic Plan to launch some of them this year. One of the international initiatives is the provision, through Coursera of more than 20 MOOCs in English, which are available through the Postgraduate School webpage. Partnership with institutions abroad happens mainly in research more than in teaching. They are involved in several Erasmus+ projects. In these cases, most of the activities are supported by the online platform.

Danish universities all have a group of international students (approximately 10%). Currently, the Danish government is not promoting an increase in this number. Danish university colleges primarily target Danish students due to their focus on vocational education (on EQF 5-6). The institutions in the study do not specifically mention online or distance education within international education.

In *Austria* Staff, teacher and student mobility occurs mainly within the framework of Erasmus+. In this program students study at foreign universities and therefore get international education. On the other hand, there are "incoming" students, that take part in Austrian university lectures. Consequently universities intensify their efforts to make (more of) their lectures available in English.

In *Finland*, Universities and Universities of Applied Sciences offer degree programmes in English. Aalto University has double degrees, which they offer on overseas campuses. In *Finland* there are no legal barriers related to international online or blended education. European auditing is seen as a positive thing and some of Finnish programmes have accreditation.

In *France*, universities tends be pro-active in international education. There are agreements, USTL diplomas authorised by the AUF (Alliance universitaire de la francophonie). The agreements pass through the IFIC (Institut de la francophonie pour l'ingénierie de la

connaissance et la formation à distance) for multi subject diplomas. In the new Lille university, it's planned that there will be double doctorate degrees, bi-national, undergraduate and master's courses in English, to combine bilingual courses. It must also support outgoing mobility. It must help the French students to become bilingual and the foreign students to be French speaking. At AMU finances will be made available for creating mobility grants (inbound and outbound) and to develop language teaching (particularly English) and teaching in other languages.

Only few countries have a dedicated action plan on internationalisation at a national level, for example in Ireland[18]) and Finland as described below:

> In *Finland* a steering group at the Ministry of Education and Culture has prepared an international higher education and research policy. In its proposal, the steering group took into account the global development of higher education and science, possibilities of strengthening the visibility of Finnish higher education and research in Europe and globally, and streamlining the integration of foreign students and scientists in the Finnish higher education and research community and society. It also identified the roles of different ministries and other stakeholders and their possibilities of developing joint actions in international cooperation.
> In the Government's mid-term policy review in April 2017, as part the Government action plan, the Government decided to implement several measures listed in the international strategy for higher education and research. The Ministry of Education and Culture established a Team Finland Knowledge network to enhance Finnish education and research cooperation and the export of Finnish knowledge, expertise and educational innovation. This contributes to the Government objective to increase the internationalisation of education and research.

4.3.2. Role online/blended courses/curricula in international education

Online and blended education is increasingly changing the landscape related to internationalisation and student mobility. Online education has no national boundaries as MOOCs have amply demonstrated. MOOCs have shown us that international online education is feasible at scale. Online courses in general stimulate the virtual mobility and online exchange of students as examples here below illustrate:

> In *Finland*, SAMK currently offers five online courses in English accessible for international students in partnership with institutions abroad in the areas of logistics, healthcare, welfare technology, digital learning environments in tourism education. The latter two also include virtual mobility schemes (see, for example: http://www.samk.fi/en/research-and-cooperation/international-projects-and-partners/). In addition, the logistics educational network with US and German institutions arranges virtual seminars and fosters online

[18] https://www.education.ie/en/Publications/Policy-Reports/International-Education-Strategy-For-Ireland-2016-2020.pdf

learning communities. Aalto University has around twenty international courses with a target of some hundreds of courses by 2020.

In *Portugal* offering of online courses is considered a support strategy for internationalization. In the case of traditional universities face-to-face classes and training of international students have a follow-up at distance. At UAb the use of a fully online pedagogical model permits that a considerable number of Portuguese speaking students have access to the pedagogical offer. Furthermore virtual mobility programs are also established between HEI both face to face and distance.

By online provision, higher education could be internationalised through networked curricula and online mobility and cooperation between universities and businesses could be organised (CPL, 2015). Increased mobility, both physical and virtual, the need for intermittent study which new providers might cater for specifically, and greater use of educational portfolios with varied content, pose serious problems for measurement of progression (CPL, 2015). Experiments with nano-degrees (Udacity), micro-masters (edX) and short learning programs (see section 4.2 on CPD/CE) and similar small credit units add to the complexity.

Also in international partnerships and transnational education, new modes of teaching and learning increase the accessibility and flexibility of provisions, for example by organising joint virtual seminars, think tanks, discussion groups or joint degree programmes with related online/virtual mobility. Examples of blended networked curricula or joint degrees with online/distance education are:

In *Catalonia* URV is fostering collaboration with foreign universities in the framework of the Ph.D programmes. They are also introducing an Online Ph.D. programme.
It is not established that the institution recognizes courses taken in another institutions in the world, but Master Programmes' coordinators can allow that. There is no funding for online programmes, and quality assurance is guaranteed by the AQU procedures all the programmes have to pass through. International students demand Master programmes in English. Currently they have 10 but plan to have more Master programmes in English online.

In *Greece*, the Master's Programme in Neurosciences of the University of Athens is a good example of an international blended degree. HOU has common programmes with two Universities in Cyprus and one in Poland. No international programmes run at the level of seminars or on short learning programs. Online/blended forms of international education does not exist in the conventional Universities visited, and is very limited at the Hellenic Open University.

In *Austria* there is no kind of "virtual Erasmus" so far that would enable people to study international modules online or via distance learning. However, a special form of mobility are the approx. 300 students of JKU taking courses from the FernUniversität in Hagen within their JKU degree program. For the future, universities consider the integration of online or blended courses from other international universities in their respective curricula. However, it will be a supplement and not a substitute. Nevertheless, "physical" Erasmus will remain a major mobility program for students.

UTA in *Finland* organizes 5-6 Master's degree programmes in international partnerships available for international students with a blended learning approach that includes online

studies and intensive face to face contact weeks (for example: COSOPO, MARIHE, CBU). These degree programmes also offer virtual mobility schemes. At the institutional level at UTA, a need is recognized to include international online learning in the curriculum as a mandatory part of it. However, this would require long-term, established international partnerships, strategic alliances, with whom online education could be offered based on good practices and experiences gained in contact teaching and collaboration.

In *France*, online learning is also a tool for developing international collaboration as part of internationalisation. Lille has signed agreements with other establishments, for example, for the development of a biology curriculum and sustainable development, with a bilingual international team, for putting remote courses in place (professional computing degree). At the AMU, in the Faculty of the arts, humanities, languages and human sciences (ALLSHS) there's a trilingual masters.

The extent to which new modes of delivery have the potential to disrupt the existing models of internationalisation is still open to considerable debate. While it is unlikely to eliminate demand for overseas study, it is likely to lead to greater choice and more diversity in the models used to educate international students, and offers considerable opportunities for relationship building through international partnerships.

4.4. The role and perspectives of students

Regular degree students are used to (large) classroom teaching. The attitude of students towards online and blended learning is important. Universities in this study report a positive attitude, but also some reservation towards online and blended education.

In *Austria*, there is basically a positive attitude with regard to e-learning among the students. However, students also appreciate the direct contact with professors and lecturers. There is concern that this direct contact gets lost when the amount of online teaching increases. Also, concerning MOOCs the feedback was consistently positive. The knowledge acquisition in the MOOC was seen to be livelier than in the traditional f2f-lecture.

In *Greece*, students interviewed are extremely positive about the possibilities and advantages of blended/online learning. Students definitely believe that blended/online learning is an emergent and rising trend in higher education.

In *Denmark* student representatives are somewhat hesitant towards online and distance education. Students value face-to-face time with the teachers and the social environment with their fellow students. Institutional feel that students often are rather conservative, preferring traditional lectures and a "more passive learning environment". A small investigation show that students prefer traditional teaching based on knowledge transfer rather than an activating and constructivist approach to teaching. At the same time, It shows that students working in a constructivist approach perform better at the exam. Nevertheless, students also highlight the potential of online and blended learning. As main value, they mention flexibility, personalised learning, opportunities for repeating course units, satisfaction for using technology and becoming familiar with different collaboration methods. However, students do not want to have fewer face-to-face contact hours, but they appreciate that teachers plan their pedagogical practice with different forms of learning.

In *Catalonia*, UAB's students consider some of the new teaching models not as new, neither as a positive development: you keep attending the class activities, but you have more workload to be done by yourself. This is not exactly what they mean by flexibility and online education.
Some of the students value online education as they can take courses they wouldn't take if an online option would not exist. Flexibility is iimportant for students to be able to work at the same time as they study. Also, students feel that teaching staff is strongly available and involved in online teaching, but they report also some feeling of isolation.
Students complain about the fact that some exams, and some other learning activities, are organinised face-to-face. This is an issue for international, e.g. Latin-American students. Teachers do not necessary know how to manage online courses and online communities. Some have a lack of digital teaching competency. Nevertheless, students suggest to reduce the face-to-face component, to organize e- exams, and to support teachers through training and incentives and training to feel more committed and professional. Students complain that some online courses are too similar to the face-to-face courses and ask that they would be re-designed in a different way.

At URV, there is an uneven satisfaction, depending on the course. In their opinion, the use of ICT makes sometimes sense, sometimes it doesn't. As added value/benefits they highlight: to

get access to diverse teachers from many different universities, to have the best teachers for each topic, the increase of flexibility in the provision of courses, the group work, and the collaboration with peer students from different cultures. As complaints, they report: the lack of teachers' digital competence, organizational issues, and some weak experiences on monitoring and feedback. Students neither like the institution asking them to create an account and profile on a social network that they don't use.

These examples illustrate the importance of students' attitudes towards online and blended education, but also the importance of the digital and pedagogical skills of teachers employing digital education and the need of various support structures as illustrated in the reports from Finland and France.

In *Finland*, students seem to appreciate the flexibility of studies and the freedom of choice, whether to attend face-to-face or online. The online studies can include online courses, recorded video lectures, webinars, the possibility to decide when to take the test enabled by the electronic test system,.

In JAMK, the programmes with new modes of teaching and learning are popular. The number of applicants are 50 % higher than in traditional programmes. The majority of students are satisfied with the current implementation. Students also feel that they are acquiring 21st century skills as they learn to collaborate online via different cloud services and while using various virtual learning environments. Real projects from companies become authentic learning tasks. Experience from web conferencing is essential in these projects. Student guidance and support services are the key functions. Some categories of online students need guidance and support outside the office hours. Also, it is important to create appropriate software (self-help services, chat, etc.), library services and modern facilities for students.

In AMU (*France*), the student syndicate, FNEB (Fédération Nationale des Etudiants en Sciences Exactes, Naturelles et Techniques) is the most active. It places importance on pedagogic innovation and promotes a type of education which supports learning, e.g. the flipped classroom. The situations aren't always settled and often opposing demands have to be accommodated: more participation but no more time, the available time is a big constraint for students.

Opmerking [PH37]: Quid?

Opmerking [PH38]: Needs some additional explanation

Many student satisfaction surveys exist both at institutional level and national level. Moreover, in some countries student satisfaction surveys are used to inform new students about the quality of higher education programs (e.g., the Netherlands and UK's Teaching Excellence Framework). Student attitude and satisfaction towards digital education is positive.

Recent study by The Open University[19], reveals that the best predictor for whether students actually passed a course was whether there were collaborative learning activities, such as discussion forums and online tuition sessions. Students who were "spoon-fed" learning materials also spent less time in the virtual learning environment, were less engaged, and were less likely to remain active over time

[19] https://profbartrienties.wordpress.com/2018/02/20/inaugural-lecture-the-power-of-learning-analytics-to-give-students-and-teachers-what-they-want-30-january-2018/

than their peers engaged in more collaborative activities. As such digitals and pedagogical skills of teachers should incorporate active use collaborative learning activities.

Education should support students during the learning process, using new pedagogies focussing on collaborative learning activities. Blended and online learning require also different approaches to student support. Interactivity is a necessary feature in the teaching and learning process. In online learning, this can partially be replaced by a sequence of learning tasks and (automated) feedback on assessments. Also, interaction in discussion groups and in collaborative learning schemes are integrated in online and blended learning. Teaching staff is involved, but large students groups require an intervention structure which will not augment the workload and nevertheless is effective. Moreover, blended and online learning is part of the future of institutions, not only for mainstream degree education, but also for continuing education and mature students. I.e., student (and teacher) support must include these provisions as well.

By the flexibility of online learning, universities are able to strengthen the accessibility of their programmes and courses, to enlarge student numbers, to reach out to non-traditional students combining work and study or not being able to attend courses for other reasons. Hence, online education creates new opportunities for students to take up and complete a course.

Opmerking [PH39]: Is more aout effectivity of online T&L. Must include results of SOONER Marco Kalz c.s. Perhaps better include in section on research?

Opmerking [PH40]: Needs reformulation as conclusion

5. Governmental perspectives

The role of national governments is mainly to create favourable framework conditions to capitalize on the opportunities of digital education in higher education. This framework should embrace different aspects like

- Awareness raising and stimulating research of new modes of teaching (see section 5.1)
- Stimulating innovation in higher education, e.g., by funding to institutions for students combining work and study, and favour flexible study paths (see section 5.2 and 5.4)
- Adopting legal regulations for new modes of teaching (see section 5.3)
- Setting quality and accreditation frameworks for online and blended education compliant with on-campus degree education (section 5.3)
- Removing conditions in favour for only on-campus education (i.e., removing discrimination between 'how' and 'where' the learning takes place) (see section 5.3)
- Defining the funding statute, parameters and the funding formulas between traditional and online/distance education students and full-time and part-time students. (see section 5.4)
- Recognizing SLPs and MOOCs in qualification frameworks and recognizing prior learning in line with the objectives of the Bologna process
- Making the structures for short learning programmes and degree education permeable in order to facilitate the use of MOOCs and SLPs as building blocks
- Stimulating or organising continuous professional development of teaching staff and stimulating institutional leadership for continuous innovation

In general, it is recommended (e.g., EADTU-ENQU PLA, 2017) to organise a strategic working group (advisory) and develop a strategy at national level involving all stakeholders (university, students, social partners) and experts based on capture the state of affairs, current needs and opportunities. Different European countries have worked before with such working groups (Norways, Sweden -, references) sometimes waiting for the continuation to national strategies plan and subsequent actions.

5.1. Awareness raising and stimulating research of new modes of teaching

Interviews and surveys amongst higher education institutions and companies reveal that still many misconceptions exists towards blended, online and open education. De following statement are generally not true but are still mentioned regularly by those interviewed (see BizMOOC, 2016 and Witthaus et al.,2016).

- Online education is inferior compared to face-to-face education
- Free courses and educational material must be of less quality
- Perceived lower value of online assessments and proctoring
- Lack of integration of open learning with existing mechanisms and strategies for student mobility and recognition of prior learning (RPL)
- Tension between affordability and future recognition in the provision of open learning
- Unclear business models in respect to blended and online education, related to both initial and CE/CDP

Other factors and more general challenges are discussed in section 4.1.2. related to Challenges and opportunities of new modes of teaching. Awareness raising to new modes of teaching and learning need to address these factors and challenges. This is best done at a regional/national/European level. In addition awareness comes with disclosure of positive examples of new modes of teaching and education. Intermediate organisation like QA agencies should work closely with other national and, where appropriate regional, agencies concerned with supporting innovation in pedagogy and use of technology (see section 5.5).

At this moment national strategies on online education are lacking both in regulations, recognition, professionalization, etc. (see section on policies (5.2) and framework (5.6). Two examples from country reports illustrate this:

> In *Portugal* the government conducted several attempts to develop a policy strategy on distance education/e-learning/online, but so far none of these initiatives have been successful. It was also evident that even though HEI are already responding in an unstructured way to society's innovation demands, by offering courses in distance learning modalities or launching open and flexible education initiatives, these initiatives continue to spread without legal regulations. The emergence and importance of supporting these initiatives is acknowledged, but once again it remains in the plan of intentions and awareness.
>
> In *Austria* along with professionalization of university research there is (a need for) professionalization on (or a business case for) teaching and learning. This field has its own dynamics. The subject has been dealt with marginally only so far, regarding aspects of respect, recognition, validity for a university career, professionalization of procedures, student interaction a.s.o.

Opmerking [e41]: Examples not quite relevant for this….

5.1.1. Research on new modes of teaching and learning

The support of evaluation and research is important to develop evidence-based governmental policies. Governments should fund research and innovation to provide evidence on new modes of teaching and learning and produce tools for developing innovative practice (Haywood et al., 2015 . A systematic approach is needed.,

Higher education institutions, intermediate organisations and governments should collaborate in evaluation and research and inform all stakeholders about relevant results, defining options for future policies and strategies.

Currently, some countries can show a coherent evaluation and research efforts at all levels. In most countries, this is not the case, even not at the institutional level.

> *France*: very large research and development programs…..
>
> *The Netherlands*……
>
> *UK*……
>
> In *Denmark* this kind of research is just emerging at the institutional level. One of the universities is building a research unit in order to nurture new pedagogies by research and

innovation. Also, some university colleges have established knowledge centres that focus on pedagogical developments, including educational technology.

In *Austria,* research on new modes of teaching and learning is happening on the level of departments and staff of higher education institutions. This research is not centralised anywhere in Austria so far.

In *Catalonia,* the institutions interviewed mentioned that they do research in new modes of teaching and learning, especially in the Schools of Education. Other schools should also get into research to improve teaching, analysing their own practices. However, even when some research outcomes are implemented, often they are not evaluated. The interviewees stated that the quality enhancement of ICT-based teaching and learning in their institutions is not evidence-based.

5.2. Governmental policies for innovation in higher education

As stated in the introduction of this section governmental policies can create favourable framework conditions to capitalize on the opportunities of digital education in higher education.

France has a strong governmental policy in educational innovation since many years. It is driven by initiatives like the Université Numériques, recentently completed with the French MOOC platforms, named together France Université Numérique (FUN). France has also deployed very important funding schemes for large scale innovation in higher education, including the development of digital higher education.

In *Greece,* a specific law now allows all universities to provide online / distance education at a (post)graduate level, mainly in order to stimulate off campus education. The situation in Greece is relative positive as already many teaching staff have experience in blended and online education. Many teachers are linked to Hellenic Open University or have been involved in it. Also, there are many online educational materials available, many of them stimulated by EC funded projects.

Also other countries developed national strategies for innovation in higher education. In the Netherlands, the government has presented strategies and policy papers, promoting innovation. Also SURF has outlined strategy papers for immediate use in institutions. The government has also foreseen some funding for open and online education. Other countries are rethinking their policies based on white papers developed by intermediate organisations (see section 5.5).

However, in most countries no specific policies related to innovation and the implementation of new modes of teaching and learning exist. Most policies are related to more general issues like strengthen the potential of people, identifying and deploying talent (*Catalonia*), the quality of education and education related to the future job market (*Denmark, Austria*).

Some countries strengthen the competitiveness of their higher education system by collaboration between higher education institutions (*Finland, France*). In all countries national policies and strategies are needed, last but not least to harvest the expertise and experience of on online and blended education at the ground floor of institutions (e.g. *Portugal*).

In *Greece*, recently a new law was voted, changing the main regulations concerning online, distance teaching and learning (2017):

a) the possibility for all Greek conventional Universities to provide all their Masters' degrees in a blended way; more specifically, up to 35% of the provision of each Master's degree may take place through distance teaching methods and tools.
b) the possibility for all Greek conventional Universities to provide short learning programmes for continuous education purposes using only distance teaching methods and tools. It's the first time that a SLP may be offered completely online or using ICT asynchronous technologies.

At the other hand, there is still no possibility to use online distance modes of teaching and learning at undergraduate level (bachelor level) . For the first time, since its establishment 20 years ago, the Hellenic Open University has "official" competition to face in offering master degrees and short learning programmes (SLPs) online.

Since ten years, two large inter-university projects funded by the European Union, have built the basis for this transition. The first one under the name "Open Digital Courses" supported all universities to develop digital material to accompany the traditional face-to-face lectures, and render the students (even at undergraduate level) familiar with blended learning. The second one called "Kallipos" funded the development of 600 e-books by teaching staff of all universities. It is estimated that 30% of all faculty members of the Faculty in Greek universities were involved in one or both of these two projects, which means that the academic staff of "conventional" universities is prepared for the transition to blended and distance teaching. Additionally, about 3,000 members of Greek universities have been employed as tutors by the Hellenic Open University since the year 2000. To sum up, half of the faculty in Greece is experienced in blended and online distance education.

The *Greek* Ministry considers digital higher education as a reality and a necessity. In the official discourse, as registered in the interview, blended learning is recognised as a crucial factor for the survival of small, peripheric universities. So, the encouragement of blended and online distance education is a sort of "forced policy" for the Ministry of Education. Online education is generally seen by the Ministry of Education as a field for off campus education, also not to discourage face-to-face courses and the presence of students on the campuses and the university cities..

In *Catalonia*, currently the main objective of the government is to improve performance of the Catalan universities towards excellent institutions worldwide. One of the current priorities is a new programme on teaching innovation. According to the agreement with the universities, a set of actions is supported to make innovation in teaching easier. One of the ways to support this is avoiding regulations limiting innovative developments. Pedagogical changes in the universities are mainly linked to curriculum changes.

The Government promoted for two years the creation of MOOCs through the UCATx with

calls for proposals inviting universities to develop MOOCs they would like to carry out. This fund was positioned as initial seed money for MOOC development.

The main decision of the *Catalan* Government regarding online education was the creation of the Universitat Oberta de Catalunya in 1995.

Main governmental programmes are addressed to solve very specific issues that become priorities for the Government (modern languages, cross-sectoral competences, initial teacher education, etc.). In all the cases, these programmes are agreed with the universities through the CIC (Catalan Interuniversity Council). The Government supports them by providing tools and funding. Universities and government have a singular relationship , the government only ruling after negotiation with the universities.

In Austria, an "Atlas of Good Teaching" offers a sample of good or best practices in different categories of innovative teaching and learning, also hosting for exchanging ideas and experiences. Updates are done by the Ministry, institutions and teachers themselves. About every three years data and reports on the social characteristics of students are published. The latest report was highlighting specific questions related to study progress, mobility and to specific target groups.

Also, a working group is established on the quality of teaching. based on recommendations published in 2014. The recommendations were based on a broad consultation, ranging from students' representatives to all kinds of universities (private or public , research universities and universities of applied sciences).

In *Denmark,* the Ministry of Higher Education and Science is shifting its focus from only research towards a strong emphasis on education and teaching. The Ministry has no intentions of actively shaping and defining how higher education institutions should teach and/or organise their educational offerings. In this respect, the institutions are autonomous, although all educational programmes have to be accredited by the Danish Accreditation Institution. Whereas there is a wish among institutions for national initiatives, the Ministry has no intentions of initiating national strategies or projects.

A key policy of the Ministry is concerns student enrolment and study completion, and the match between student and education. Related to this, it also has a strong focus on how to educate for the future job market. This has resulted in a general focus of the Ministry on quality in teaching.

In this perspective, the Ministry of Higher Education and Science does not have a strategy for online or distance education and it has no intention to develop such a strategy. It supports institutional efforts on quality in teaching, but local initiatives are to be funded within institutional budgets.

In *Finland*, universities have a strong autonomy. Currently, the government gives only general guidelines for development of higher education through the Strategic Government Programme. However, the Ministry has a vision on higher education and research until 2025, which has been a basis for the negotiations on the performance agreements with the higher education institutions for 2017-2020 . The main goal is to enhance the competitiveness of Finnish higher education by collaboration with excellent research groups and experts.
The Ministry is steering funding for those universities which are willing to work together towards the key areas in the Strategic Government Programme. Institutions need to work together when preparing the funding applications for projects in these areas.
Therefore, the innovation happens bottom up, but also top down. The current policy in the Finnish higher education system includes: a) speeding up the transition from secondary to higher education; b) speeding up graduation and transition to the labour market by making flexible year-round studies possible; c) digitalizing learning environments; d) increasing co-operation between higher education institutions; e) strengthening the educational and research profiles of the institutions; and f) enhancing the quality of education.

In *Portugal*, there is a clear acknowledgement of the need to regulate blended and online distance education, but there is no indication of a strategic vision to achieve it. Given the lack of definition of the political strategy of the Ministry of Science, Technology and Higher Education, the aspects that frame the policy of innovation and modernization of higher education in terms of online and distance education are not clear and a certain degree of ambiguity remains in the political discourse.

Even though it is clear that there is a strong influence of the guidelines of international institutions, such as the OECD, it is also clear that supranational guidelines are not linearly transposed into national contexts. The conflict and the ambiguity that has been pointed out in the various attempts to build a political agenda for online/distance education is justified by the multiplicity of national players involved in the political process on this subject, which may represent divergent responses to international trends. However, it is urgent to construct a framework for the regulation of online and distance education that combines the binomials of unity/diversity and flexibility/structure.

5.3. Legal regulations concerning new modes of teaching and learning

In some countries, specific regulations exist for universities providing online education (e.g., UOC in Catalonia) or open education (e.g., Open University of The Netherlands). In Finland, online and open education are part of regular activities of all the universities. In some other countries, open and online education is provided without sufficient legal regulations (e.g., UAb in *Portugal*, JKU in *Austria*).

In an increasing number of countries regular/traditional universities are allowed to provide online / distance education on an legal basis (e.g., Lithuania since 2014, Bundesland NRW in Germany since 2014, and Greece since 2017), although some details or principles related to online and blended teaching are lacking. Some details can be found in examples here below.

Catalonia has 12 universities, one of them fully online. They have a total of 241.934 students enrolled (2015-2016). More than 11.000 of these students are coming from abroad. The Catalan university law (LUC), as well as the Spanish organic law for universities (LOU) are the legal framework. The government establishes a general framework and supports universities in solving the main problems they. The Government promotes the use of ICT both in teaching an learning and research, but leaves decisions regarding innovation to the universities.

UOC was created as a fully online university from its inception in 1995. It was the first attempt to support the modernisation of higher education in Catalonia by creating a disrupting educational model. The intensive use of technology, and particularly of the Internet, and a new governance model were the two main elements of this successful project. Nowadays, undergraduate online education is almost only provided by UOC, postgraduate online and blended programmes are at most Catalan universities.

In *Finland*, the government has no specific framework for online and distance education, because online and distance education are part of regular activities of the universities. Open university education is defined in the legislation as having the same learning objectives as degree education. In 2016, in open education 369 975 credits were awarded by universities and 204 107 credits by the open universities of applied sciences. A lot of the open higher education is online.

As part of higher education reform, the Ministry prepared a new collaborative educational developmental model. Universities and Universities of Applied Sciences can organize education together. Universities and universities of applied sciences can order courses from each other. However, based on their educational responsibility, they must give the main part of a degree program themselves. This new cooperation model was accepted by the Parliament in mid-December 2017 and will come into effect in January 2019.

In *Greece*, there is an absolute lack of regulations regarding online/blended learning. The Ministry recognises this fact and explains it as a consequence of the early development of distance teaching in Greek higher education. The law of 2017 on distance/online education (see previous section) does not provide any details or principles on the newly opened possibilities of distance and blended teaching in universities. ADIP (the National Agency for Quality Assurance in Universities) unofficially identified this gap and asked for directions by the Ministry, but ADIP was not backed by the Rectors' Conference in its assembly of December 2017, where a preference for no precise regulations was expressed.

In *Austria*, from a legal point of view, there are no hurdles for blended and online education and the legal framework provides possibilities to organise it.
In the law on Austrian Universities (UG 2002) also promotes the development of blended learning for specific student target groups. However, from a legal point of view, the full-time student still is the standard reference for a standard curriculum and study duration. As a matter of fact, this standard does no longer reflect the student body of nowadays universities as only every tenth or eleventh student is studying full-time. As a result, actually there is only a weak differentiation between student cohorts. In Austria, there is no legal status of a “part-

time student" like in Germany. Only 4 to 5 % of the students are registered as a part-time student, while many more students are part-time, working besides their studies.

Introducing the part-time status in for example Austria would cause severe problems , particularly regarding funding and scholarships. In Austria, a student has to complete at least 16 ECTS per study year to be counted for funding. Moreover, most curricula don't foresee the attendance of part-time students who work many hours a week. Regular offerings focus on three years for a bachelor, two years for a master degree, but don't offer alternatives for longer study paths to part-time students.

In *Portugal*, UAb exists already 30 years and is currently a full online university, despite the legal gaps in the education system regarding online and distance education. However, the accreditation process for UAb's formal courses is exactly the same as for face to face universities, even though the pedagogical model and methodology are totally different.[20] This is a much discussed issue with the Agency of Evaluation and Accreditation of Higher Education (A3ES), where a number of other issues on the organisation of higher education are also debated, e.g. the distinction of courses offered in daytime and in evening/weekend classes. Both the government and the accreditation agency A3ES defend that the accreditation process for an online/distance course and for a face-to-face course should be different. In a short term, they need also a specific legislation , regulating the responsibility and framework for all different actors: higher education institutions, the accreditation agency and the government, allowing different scenarios for different situations.

Several meetings have already been held to define this legal framework, but it has not yet be implemented. It is the government's responsibility to resolve this situation together with the institutions.

Next, strategies to facilitate innovation processes in higher education are conditioned by the autonomy of Portuguese higher education institutions, enshrined in the legislation. In order to achieve a process of modernization of higher education, teachers need to change practices, attitudes and conceptions which they use to practice. This is a complicated and difficult process. The main obstacles are found within the institutions themselves: much of the resistance to teaching modalities other than traditional face-to-face teaching is internal and comes from the teaching staff. One of the measures mentioned is to promote pedagogical innovation through project funding, similarly to what is done in research.

5.3.1. Quality of HE and Accreditation of new modes of teaching and learning

In quality assurance, different kinds of tensions are reported (e.g., EADTU-ENQA PLA, 2017)

[20] It should be noted that when filling in the report for course accreditation, in the information system of the A3ES, we are asked to fill in the Working Regime (Daytime/After working hours/Others) and the Premises where the Study Programme will be lectured.

- The tension between high level standards that are independent of teaching mode (face to face, blended, online,…) and detailed indicators for blended and online teaching and learning
- The tension between external (national/international) quality assurance and internal quality assurance
- The tension between a compliance with standards/criteria (retrospective) and the enhancement of processes (prospective)
- The tension between content (components and product) and process and context

The major challenge with regard to quality assurance of higher education in the future is to find the right balance between the assessment of high quality learning outcomes, the quality of the learning processes leading to those outcomes and the quality of institutional interventions leading to continuous improvement and innovation of the institution.

The roles of quality assurance agencies and accreditation agencies differ from each other. Quality assurance is aiming at measuring the quality of a program or an institution in order to improve processes, outcomes and institutional strategies and interventions. Accreditation is the accountability, it approves with “yes” or “no” a curriculum. In some countries, both agencies exist. In other countries, they are united in one structure, which obviously can lead to problems. in some other countries universities are able to award and accredit their own degrees (see e.g., Haywood et al., 2015).

Quality assurance and accreditation concern curricula and institutions. They imply the course level within this framework.

Related to the role of national quality and accreditation agencies, differences between member states are observed.

> In *Catalonia,* the general requirements for programme accreditation are coming from the Agency for Quality of the Catalan University System (AQU, from its acronym in Catalan). There are no incentives for creating blended or online programmes in the system. Universities can propose blended and online programmes and have to demonstrate that they can be feasible, attractive, demanded and sustainable. During the accreditation process, they have to deliver evidence about the requirements, depending on the teaching mode. There are no plans to regulate this more specifically.
>
> In *Austria,* accreditation is the task of the “Agency for Quality Assurance and Accreditation Austria” . Every 7 years those audits have to be made. The awareness on quality assurance has just started. This is related to the recent professionalization of teaching, considering teaching as a business field on its own. The quality level of blended and online education must correspond to traditional face-to-face education. Methods and standards have to be developed. As instrument on policy-level, the recommendations (published in 2014) of the UNIKO on improving the quality of teaching at university level should be mentioned. A working group on the quality of teaching elaborated recommendations in this field.
>
> In *Portugal*, the Agency of Evaluation and Accreditation of Higher Education (A3ES) is the accreditation body for higher education. They operate within regulations for face to face education only. The accreditation organisation can only operate within the legal context set

by the government. In fact, A3ES can't operate outside the legislation and can't take decisions on new forms of education by itself. It is the government's responsibility to resolve this situation together with the institutions. The agency has no basis for action to overcome the impasse created by the lack of legal framework on online and distance education. The Agency can however work with the government to create a specific legislation. With regard to online and distance education (DE), the Agency has published a book on the Cross Border Education and Services (2016) that addresses the role of online and distance education is in this context only.

Finland has no accreditation body, but it practices a strong institutional quality evaluation. The mission and the educational responsibilities of universities are outlined in the law. This includes also the self-assessment of quality. All these matters are also outlined in licenses of the universities of applied sciences. Universities and universities of applied sciences are in charge of the quality assurance themselves. This requires an internal quality management system with quality audits on a yearly basis, concerning a variety of topics one at a time. Additionally, self-evaluations of teaching and learning, educational services and the management are systematically and frequently organised.

Every six years an institutional evaluation of each university is performed by the Finnish Education Evaluation Centre (FINEEC). This is an independent governmental agency responsible for the evaluation of education. FINEEC evaluates the quality management system of each HEI and assesses how comprehensive and effective the quality management meets the strategic and operational objectives of the institution.

However, more focus on quality of education would be required. The focus should also be on the impact of education and it should reward excellence. To support the quality of Finnish higher education, the government supports the digitalization of the higher education sector by funding the key projects in the Governmental Strategic Programme (see previous sections). International co-operation will also strengthen the quality of Finnish higher education. This is going beyond quantitative criteria, e.g. the number of students getting at least 55 ECTS points a year.

In many institutions, blended and online education is not yet systematically integrated in the quality framework of universities, while this has an impact on the pedagogies, the learning processes the quality of learning outcomes. ENQA has set up a working group to look into these new developments and how this can have implications for the European Standards and Guidelines (ESG), in particular the role of agencies in quality reviews for blended and online / distance programmes. Agencies have also do get across the understanding of quality assurance for new modes of teaching and learning by higher education institutions and will be shared by teaching staff and professionals within the institutions.

With regard to quality assurance of blended and online education, EADTU and ENQA collaborate already a long time. Both organizations have opted for a dialogue on developments of blended education and online SLPs and on quality assurance in a shared responsibility to stimulate innovation in higher education. During the EADTU-ENQA PLA (2017), it was noted that innovation through blended and online education has been rarely on the agenda of the Bologna process. A Working Group of the Bologna Follow Up Group is discussing the digitalization of higher education and will do

proposals on the Bologna Policy Forum, preparing the agenda of the Council of Ministers in Paris in May, 2018. The aim is to put more effort in digital higher education as promoted in the position papers of EADTU, the European MOOC Consortium and in Bologna Digital[21],

Opmerking [e42]: URL to those papers in footnote

5.4. Funding rules for higher education and new modes of teaching and learning

Most funding for new modes of teaching and learning is embedded in specific governmental policies like strengthen the potential of people, identifying and fostering talent (*Catalonia*), quality of education and teaching also related to the future job market (*Denmark, Austria*) and to secure the competitiveness of higher education by collaboration between HEIs (*Finland*). See also section 5.2. In addition performance agreements between government and HEIs are often used to include specific strategies to blended / online and open education (e.g., Netherlands, Finland, Austria). Next to examples given before, the following cases are illustrative for this.

The *Austrian* ministry provides a 100 million Euro fund for amongst others the structural development of universities (including IT-structure) and innovative projects. About 35 million Euro is allocated related to education with the national Structural Funds for University Space program (called "Hochschulraum-Strukturmittel"). There will be an additional funding via the Innovation Foundation for Education with an endowment of € 50 Mio, targeted to universities as well. Different categories of "Edutech" will then nurture new modes of teaching and learning.
Furthermore, there is a separate and comprehensive chapter of "Teaching" in the performance agreements between government and universities. These agreements are based on three-year-funding arrangements, contractually agreed upon by the ministry and the respective institutions. This defines the shape every institutions' budget decisively. In these agreements, also the core educational processes of universities are described and calculated. Besides quality issues, agreements concern the qualification levels and the continuous professional development of staff. Performance agreements therefore are an instrument to improve teaching and learning. With regard to the "digitalisation of universities", a bonus is foreseen in the performance agreements for a curriculum including at least 20% e-learning in 2019-2021.
A new model of university budgeting shall be implemented in 2019, called University Place Funding. This concept, already realized within the universities of applied sciences, will further limit the access to the universities (enrolment caps already exist in certain programs), enabling them to cope with large numbers of students. Key figures will be based on student numbers and teaching features, calculated according to a certain ratio (besides research). There shall be extra categories for "digitalisation" and "social inclusion". Both relate to specific programs and target groups. Both should contribute to the requirements of the European Commission in the "Education and Training 2020" objectives and the Modernization Agenda.

In *Finland,* online students and courses are included in governmental funding rules. The Ministry of Education and Culture is monitoring the universities negotiating the performance agreements, giving strategic funding to universities, uing the funding model for collaboration between universities as well as the Key Projects (the Governmental Strategic Plan) as a

[21] https://kiron.ngo/2018/03/27/bologna-digital/

funding instrument. All these funding methods encourage the higher education institutions to co-operate and set the core fields in order to to profile themselves. Currently, the Key Project funding is very important. The amount of the strategic funding is 12% of the total funding for the universities and 5% for the universities of applied sciences. At this moment, the Key Project funding is the most important funding component for new modes of teaching and learning. The Ministry of Education and Culture follows actively how digitalization is happening in education and research.
But, since funding for mainstream degree education is cut, all institutions are struggling with limited resources for mainstream degree education as well as for development and innovation.

France**…..**

Greece…..

Spain….

Portugal……

In most European countries, public authorities are the primary funders of higher education. Funding frameworks, in which budgets are channelled to institutions, vary from country to country (Jongbloed, 2010; Estermann, 2013).

Universities are given the flexibility to accommodate new forms of teaching and learning, together with traditional education. However, governments might specifically wish to stimulate new modes of teaching and learning in higher education in order to modernise the system and to keep pace with other countries. This might be targeted to improvements in the quality of degree studies through blended education, to respond better to the needs of society by flexible continuing education or CPD, to opening up education through OERs and MOOCs (Haywood et al., 2015)

The funding inequality in university systems is a barrier for an equal development of universities in each of the European countries. Since this has also consequences for the economic and social developments in the EU, it should be considered that the structural funds are used to support the innovation agenda European-wide. In particular, governments have to support institutional leadership with regard to innovation. Therefore, they should promote the professional development of teaching staff, especially with regard to new pedagogies for online course design and delivery. They should support platforms for exchanging good practices and for sharing course material. They should also organize evaluation and research on digital teaching and learning, monitoring progress. Funding regimes should stimulate educational innovation in universities by the increased use of technology in teaching and learning. This doesn't require a high additional cost to higher education systems. It is a matter of a visionary policy making. This would be a best investment the European Union and national governments can do for universities.

5.5. The role of intermediate organisations

Some governments support the development of policies and frameworks for innovation by specialized agencies. These agencies extend their scope with digital modes of teaching and learning, as this becomes a reality in all countries and policy makers want to be advised on this.

Some agencies play a broader role, e.g. related to the operations of an innovation funds and the development of strategic frameworks and reports, inspiring and stimulating universities . In countries, where these orientations are not made available, this is felt in university policies and practices.

Intermediate organisations create a favourable environment for the dialogue and cooperation between stakeholders, notably policy makers, universities and quality assurance agencies. This is required for sharing visions, expertise and good practices.

Intermediate organisations play a role in revising regulatory frameworks by advising governments.

There is a need for a continuous dialogue on digital modes of teaching and learning in degree education, continuous education/CPD and open education (notably OER and MOOCs).

> *Catalonia*: The Catalan Interuniversity Council (CIC) or the Catalan rectors' conference represents both the universities (rectors , presidents) and the government. It is a space for discussion and debate where innovation is proposed and discussed. CIC is the proper space for preparing advices and making decisions collaboratively.
>
> In addition, another organization composed by all the public Catalan universities, ACUP, is fostering studies, analyses and activities.
>
> The Agency for Quality of the Catalan University System (AQU) is responsible for the organisation of the accreditation of all degree programmes (undergraduate and graduate). It is also responsible for the accreditation of university professors (Docentia). Through these accreditation processes at program and staff level, AQU addresses core university policies and priorities in the coming years.
>
> Periodically, AQU also conducts a survey about students' and employers' satisfaction on the higher education system and it publishes policy reports.
>
> The *Danish* Accreditation Institute supports the institutional development of educational programmes through the accreditation process.
> Another task of the accreditation institution is to survey international trends. As a part of this task, the institution has recently published a report on MOOCs. They have examined the conditions and opportunities for offering MOOCs and other forms of open and online education in Danish Higher Education. The report has a focus on the perspective of quality in MOOCs and how MOOCs can support and enhance traditional education.
> Two years ago, the institution also completed an analysis of pedagogical teacher training at universities. The conclusion was that although focus on teacher training is increasing, it is still not the highest priority at universities.

Finland two intermediate organizations play a role as active partners in the development of the higher education system: Universities Finland (UNIF) , which is the university rectors' conference, and the Rectors' Conference of Finnish Universities of Applied Sciences (ARENE). Both delegate higher education representatives into all working groups organized by the Ministry of Education and Culture. No other intermediate organizations exist.

Finland has no accreditation body and system at all and the Ministry of Education and Culture thinks that this is a good. The mission of the universities is outlined in the law. It includes also the self-evaluation of universities and all educational responsibilities are outlined. The same matters are outlined in licenses of the Universities of Applied Sciences.

Universities and universities of applied sciences are in charge of quality assurance themselves. The Finnish Education Evaluation Centre (FINEEC) is responsible for the external auditing of the quality of institutions. The three key evaluation types of FINEEC are the audits of higher education institutions' (HEIs) quality systems, thematic evaluations of the education system and engineering degree programme reviews .

In Austria, the main intermediate organisations for higher education are UNIKO, FNMA and the OANA.
The Austrian Universities' Conference (called "UNIKO") handles the coordination of the 21 public Austrian universities, represents them in national and international organisations and is the public voice of the universities.
The Policy Committee on Teaching (Forum Lehre, based in UNIKO) is the lobbying organisation for the Austrian universities. Its activities consist of identifying strategic important themes of Austrian and European higher education policies, discuss them within the rectorates, formulate common positions and communicate them to the stakeholders (European and national authorities, stakeholder organisations, universities and industry).

The Forum New Media in Austria (FNMA) is in regular consultation with the government too. The FNMA has also a focus on teaching, but monitoring developments in online/blended higher education in higher education institutions exceeds FNMA's capacity. An initial e-learning report by the FNMA was published in 2016 but a regular monitoring and a common framework are missing. A recent initiative on a "Certificate (in) e-Learning" for teaching staff so far could not become a valid currency, used by higher education institutions and teachers.

FNMA has published several valuable contributions and recommendations on OERs.
The Open Access Network Austria (OANA) involves the ministry, the universities and the Science Fund (FWF). It deals with issues of market research, research globally and online.
The government with support of FNMA and the OANA has just passed the "Digital Roadmap", a strategical approach to "digitalisation". It comprises 12 guiding principles for the digitalisation process, two of them touching the education sector: 1) digital skills education (i.e. in primary school); 2) science and research as a catalyst for digital change. This roadmap on education is fostered by the "Innovation Fund for Education", which is open to all kinds of educational suppliers, universities included.

With respect to accommodating repositories (e. g. for OERs, MOOCs), university libraries and the Austrian libraries' consortium are important as well, e.g. the guidelines on OERs in cooperation with FNMA

In *Portugal*, the Agency for Assessment and Accreditation of HE (A3ES) has an unvaluable and central role on the assessment of the quality of the programmes offered by HEI. However, the absence of specific legal regulations for online and distance education in Portugal, prevents A3ES from applying specific evaluation and accreditation parameters for the courses offered in online/distance education and from separating the good and bad practices in the field. Several initiatives aimed at solving this problem , but without any practical result.

Currently, the situation differs between countries. In some countries the accreditation organisation has additional responsibilities like the accreditation of professors on teaching (e.g., Catalonia), conducting surveys amongst students and employees (e.g., Catalonia, Denmark) and publishing trend and policy reports (e.g., Catalonia, Denmark). Regarding the latter those trend and policy reports are also published by other intermediate organisations influencing both governmental policies and institutional strategies (e.g., in Finland, Austria and many other European countries). In some countries to uptake of new modes of teaching and learning is hindered by the absence of priorities and/or powers of those intermediate organisations (e.g., Portugal).

5.6. Governmental frameworks for open and flexible education

Opmerking [e43]: Although a separate section in interview scheme and country report, the different cases have significant overlap with previous section under 5. Suggest to integrate them with sections

In many countries, there are strong differences in funding between degree students and those in continuous education/CPD as is illustrated in the case of Austria here below. In France, the merging of institutions and subsequently regulations is expected to bridge these two student profiles. In many countries, continuous education/CPD is organised by HEIs themselves (see section 4.2 and cases of Denmark and Finland here below) and no specific governmental frameworks exist.

Austria differentiates two different student groups 1) between 18 and 24 years old, approx. 60 % and 2) 25 years old and beyond, approx. 40 % of total student population of about 280.000.
The universities of applied sciences do have study place restrictions whereas the ordinary universities don't have. The tracking of the students' progress is difficult for universities as long as free access to studies is still guaranteed.

The size of the group of 25+ students is quite a challenge for most institutions as their main focus is still is on the norm/standard students of 18 to 24. The real picture is that the student population gets more and more heterogeneous and a considerable part of 25+ are already working part- or full-time.

The educational offerings for 25+ students are mainly: a) universities offering continuous education and (post-graduate) master programs and b) universities of applied sciences offering a more decentralised part-time study.

Via the national Structural Fund for University Space the universities of Graz and Krems have a project targeted at continuous education. There is no tradition in Austria so far on short learning programs.

In *France*, the geographical spread of continuous education students (formation continue, FC) is different to that of initial education students (formation initiale, FI). The FI students are essentially metropolitan (and on-site), whereas FC students are more remotely based. The legal regulations for FI and FC students are different.

For FC students, online distance teaching helps to replace evening classes. For FI students, the development of blended/hybrid education is one of the paths that the Presidency of Université Lille Nord-Europe Presidency wants to explore, keeping face to face components expected by students.

The merging of regulations is part of the national Ministry of Education's plan for higher education and research, which will build a bridge between the two profiles with the possibility of resuming studies for initial education.

In *Denmark,* it is up to the local institutions to develop strategies and initiatives within online and flexible education. No national programs or visions are formulated by the Ministry. The Accreditation Institute has identified some online educational formats that could potentially be utilised to develop new educational programmes, e.g. online courses for international students and collaborative online courses with different universities involved. These ideas are not converted into national strategies, but provide inspiration for institutions. It is up to each institution to further develop them.

In *Finland,* open and online teaching is integral part of education (see also section 5.3 on legal regulations). The Ministry doesn´t restrict new modes of teaching and learning. Eventual restrictions might come from universities, which constitutionally have full autonomy on education and research and can choose their teaching methods by themselves. There is no obligation in the law pointing out how much contact-teaching hours there must be. If universities want to organize online degrees it is possible for them to do so.

In *Greece*, open and flexible degree education for adults is not an issue on the agenda of the Ministry of Education for the moment. Regarding online/blended continuing education, there has been a positive turn already in 2017's university law, all higher education institutions in Greece to organise online or blended continuous education and short learning programs for adults.
The universities are already active in this field by organising SLPs for professional development of adults, and courses of vocational training for younger adults, who obtained recently a diploma of level 4, 5 or 6 of the European Qualifications Framework. The ministry aims at strengthening this trend by giving more free space to universities and by limiting the private colleges.
MOOCs are not yet considered as an integrative part of the official policy of the Ministry.

Open education is conceived by the Ministry in a broad sense, including the political will to open the Universities to a greater number of students, both at undergraduate and postgraduate level. Today, 70% of the people obtaining the baccalaureat (end of upper Secondary Education) continue their studies in higher education institutions in Greece (60%) or abroad (10%). The Ministry plans to open the admission to higher education, with the exception of the Schools of Medicine, Law and the Polytechnics.
Open Education for adults who seek a second chance of studying is a privileged ground for the Hellenic Open University.

6. References

Amendment of the Act on Higher Education Institutions (2016)

BizMOOC, 2016

EADTU & ENQA (2017) *Peer Learning Activity The development of blended and online programmes in European higher education Issues of quality assurance.* Summary report November 2017. Retrieved from http://eadtu.eu/documents/News/2017-PLA_report_24112017_final.pdf

EUA, EFFECT project funded by the European Commission, Brussels, 2016-2018

Estermann (2013)

Gaebel, M., Kupriyanova, V., Morais, R. & Colucci, E. (2014). *E-learning in European Higher Education Institutions: Results of a mapping survey conducted in October-December 2013*. EUA, Brussels. Retrieved from http://www.eua.be/Libraries/Publication/e-learning_survey.sflb.ashx

Haywood, J., Connelly, L., Henderikx, P., Weller, M. &Williams, K., *The changing pedagogical landscape – New ways of teaching and learning and their implications for higher education policy*, European Commission, Education and Culture, 2015. Retrieved from http://www.changingpedagogicallandscapes.eu/publications/

Inamorato dos Santos, A., Nascimbeni, F., Bacsich, P., Atenas, J., Aceto, S. Burgos, D., Punie, Y. (2017) Policy Approaches to Open Education – Case Studies from 28 EU Member States (OpenEdu Policies). EUR 28776 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73495-3, doi: 10.2760/283135 , JRC107713
Retrieved from https://ec.europa.eu/jrc/en/publication/policy-approaches-open-education-case-studies-28-eu-member-states-openedu-policies

International Association for the Evaluation of Educational Achievement, 2016

Jongbloed, (2010)

Laurillard, D. (2015), How should professors adapt to the changing digital education environment?

Laurillard, D. (2012), *Teaching as a design science. Building Pedagogical Patterns for Learning and technology*, Routledge, New York, London

Patru, M., & and Balaji, V. (Eds.) (2016). Making Sense of MOOCs: A Guide for Policy-Makers in Developing Countries. UNESCO and Commonwealth of Learning. Retrieved from http://unesdoc.unesco.org/images/0024/002451/245122E.pdf

Mulder, F., & Jansen. D. (2015). MOOCs for opening up education and the OpenupEd initiative. In C. J. Bonk, M. M. Lee, T. C. Reeves, & T. H. Reynolds (Eds.), *MOOCs and open education around the world*. New York, NY: Routledge. Retrieved from http://www.eadtu.eu/documents/Publications/OEenM/OpenupEd_-_MOOCs_for_opening_up_education.pdf

OECD, 2014

SCORE2020 (2017). Output 1 SCORE2020: Needs analysis for support in Open Education and MOOCs. EADTU. Retrieved from http://score2020.eadtu.eu/images/Results/Final_outputs/O1-Need_analysis_for_support_in_MOOCs_en_Open_Education.pdf

UNESCO (2015). Incheon Declaration. Education 2030: Towards inclusive and equitable quality education and lifelong learning for all. Retrieved from http://unesdoc.unesco.org/images/0023/002338/233813M.pdf

UNESCO (2015). Education 2030 Incheon Declaration and Framework for Action Towards inclusive and equitable quality education and lifelong learning for all. Retrieved from http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FFA_Complet_Web-ENG.pdf

Vassiliou, A. (2013). First European MOOCs – a milestone for education. European Commission, April 25, [cited April 25 2013]. http://europa.eu/rapid/press-release_SPEECH-13-368_en.htm?locale=en

Witthaus, G., Inamorato dos Santos. A., Childs, M., Tannhäuser, A., Conole, G., Nkuyubwatsi, B., Punie, Y. (2016) Validation of Non-formal MOOC-based Learning: An Analysis of Assessment and Recognition Practices in Europe (OpenCred). EUR 27660 EN; doi:10.2791/809371
Retrieved from
http://publications.jrc.ec.europa.eu/repository/bitstream/JRC96968/lfna27660enn.pdf

Yang, J. (2015). Recognition, validation and accreditation of non-formal and informal learning in UNESCO Member States, UNESCO Institute for Lifelong Learning.

Yerevan Communique, 2015 http://bologna-yerevan2015.ehea.info/files/YerevanCommuniqueFinal.pdf

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