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Transforming Universities for the Digital Age

Policies – Business Models – Resources

« There remains a culture of conservatism within European HE which needs to change. This demands strong leadership and vision from both public authorities and institutional leaders.»

(Vassiliou 2014)

Higher education systems in the European Union are operating in an increasingly fast-changing and competitive environment. They have to tackle key issues dealing with massification, career guidance, cost-efficiency, international attractiveness, student mobility. At a more operational level, digital practices and technologies support the change of several aspects of higher education institutions and new players providing expertise and methodologies undermine the classical model of university as a leading knowledge producer and disseminator.

Such major transformations require modern governance arrangements and dynamic leadership. As outlined in the EU Modernization Agenda of Higher Education (2011), the major bottleneck found is the staff competence and preparedness, more specifically at the institutional leadership and executive management level.

The interest for e-learning is not new but contrary to the obvious interest for equipment or management, this has not been enough for e-learning to impose itself. As stated by Paul Bacsich (2011) the presence of ICT in universities is a reality but the education transformation has not yet taken place. So far, initiatives are generally focused on operational (managerial) aspects. The D-TRANSFORM project starting in 2014 and ending in 20171 was the first European-funded project focusing on the fundamental strategic aspects of digital innovation of Higher Education. Through leadership schools, MOOCs, guidelines and stat-of-the-art reports it helped university governing bodies to define their own digital strategies and coordinate them with public policies defined at the European/national level and to be able to plan e-education according to the university needs and profile.

Public Digital Policies in Higher Education

The experts delegated by the Fondation Maison Des Sciences De L'Homme and Université de Lorraine (France), Sero Consulting Ltd (UK), the Fundacio per a la Universitat Oberta de Catalunya (Spain), Politecnico di Milano – METID (Italy), the Budapest University of Technology and Economics (Hungary) and the European Distance and E-Learning Network – EDEN, being the most comprehensive network of educational professionals in Europe, set out to publish a series of surveys about digital transformation of higher education in Europe providing:

- the state-of the art on national policies,
- the analysis of business models, and
- the implementation of Open Educational resources.

[1] DigiTal Resources As a New Strategic FactOr for a Renovation and Modernization in HE,
Type: Initiative supported by the ERASMUS+(2014- 2017) Budget: 1 M$

The 1st survey focusing on a comparative analysis between Spain, France, Italy and the United Kingdom of national policies for university digital transformation, implemented since the beginning of the 21st century was published in January 2016.

The foundation of the report is an overview of the evolution of the European university policies, than it exposes the broad lines of policies of the above mentioned countries along the lines of equipment, computerisation of university management, digital learning (resources and devices) and digital training (methodology). Finally it investigates to see if a common core exists within the various university systems which would allow for the implementation of a common strategy for e-education or whether it is more relevant to consider "specific strategic advice" for each country.

EU policies are relatively unsuccessful in bringing about change

The report considered three major initiatives to understand the European evolution:

- e-learning in 2001
- e-learning renewal in 2005
- opening up education in 2013

The following table points out these schemes main objectives comparing them with the European strategy launched in 2000, also known as the "Lisbon Strategy".

Main European directives for the digital transformation in higher education

Year	Programme	Objective
2000	***Lisbon Strategy*** (2000-2010) : → **Apprendre en ligne** (2001-2006)	Promote the use of ICT in higher education to improve quality, access and collaboration.
2005	Mid term evaluation of the Lisbon Strategy: → **Education througout life** (2007-2013)	Improve the integration and the development of ICT through a general policy (including sector programmes such as Socrates, Da Vinci, et Apprendre en ligne).
2010	***Europe 2020*** → **Opening up education** (2013)	Encourage the Open Education Resources (OER) and more specifically MOOC, to meet with : - Students demands of flexible and tailor made education - Companies demands for less time and space constraints for professional training.

Defined in 2000 for the period running from 2000 to 2010 the Lisbon Strategy tries to turn Europe into "the world's most competitive and dynamic knowledge economy" through six actions including education. Its ambitions are materialized in the e-learning program defining e-education as the education of the future. The midterm review of the strategy in 2005 found that this form of financing the digital infrastructure, digital literacy (ECDL), digital learning competences was a failure. Hence the creation a specific program dedicated to higher education with the aim to increase the network connections (broadband internet), the development of the holistic approach of education and training through life program and the incentive of open access. This revision strategy was also deemed a failure as it was too ambitious and budgets were not sufficiently specified. Higher education fell behind once again.

The “Europe 2020” strategy launched in 2014 fights the crisis with freedom as the alternative.

It does not does not bring substantial modifications to digital technology in the European economic and social transformation. However the objective for each sector is redefined to encourage a “smart, sustainable and inclusive growth” (Europe 2020) thus higher education is the object of a specific strategy and is present in four of the seven pillars of the overall strategy, namely in the One union for innovation (HE and research), in Youth in action (mobility and integration), in Digital strategy for Europe (digital culture) and in Strategy for new competences and jobs.

“Opening Up education” the main program of the strategy specifically devoted to higher education puts the use of ICT at the center of the evolution of university education and bases its actions on incentives to use and develop ICT; actions have evolved, it is no longer about distance or mixed education but about open educational resources (OER) and MOOC. Thus, the program offers the provision of digital competences to all actors of the educational system and supports the development and the use of OER.

Although it answers students’ expectations through individualization of education and an attempt for flexibility, the deficiencies of the program are manifold:

- weak adequation between the education offer and the demand for professional competences coming from the economy;
- still limited access to university education;
- high dropout rate;
- difficulty to find a funding able to fulfill universities’ needs.

Europe has always maintained a leading role in activating member states’ political agenda in favour of ICT inclusion in higher education. Forms have varied and if the illusion of an Eldorado of a new education market has vanished, to be replaced by the “free” world, the new orientation in favour of digital education is none the less a challenge since the development of digital pedagogy is at the heart of the institution. Is this really possible? Are certain university ecosystems more apt to operate this change than others? Which evolutions can one observe?

Four countries – four paths in digital policies

The report offers detailed analyses of the four partner countries, citing policies, state and otherwise funded programs and their successes and/or failures. The main outcome of the survey is that no generalization is possible. While all policies can be categorized within the general trends of the digital transformation, the dynamic of each higher education system puts different actors at the centre, according to the general logics of the systems. The survey revealed that an action touching the very heart of the system (teaching in universities) cannot be translated in the same way in countries where university systems remain very different. Many policies have been implemented since the development referential in favour of the “information society” was adopted, but their objectives, means and agendas, often being very dissimilar have been delayed.

One can observe a few constants: whilst investment in equipment and the digitalisation of university management are abundant, policies tackling the digital culture and introducing digital technologies in the teaching process are much rarer and more unstable. While computers and the internet are omnipresent in the universities, it would seem that the idea of students as “digital natives” having no need to receive an education in this new media and the ever ICT reluctant teachers (with the exception of a few pioneers). They are made guilty of not producing the educational digital resources in large numbers and not designing enough educational devices based on ICT. The priority sectors are different as are the strategies of institutional transformation.

The configuration of the different actors also differs from one state to the other (the place of the local or regional actors, intervention of the actors or private capital, the use or not of specialised institutions in the teaching professions at distance or EICT…).

For France, as the State is the omnipresent actor, and funding is dependent on government directives, the D-TRANSFORM identified as its main partners for its leadership school program the Minister in charge of Higher Education and Research, the Conference of University Presidents, head of TICE at each university and the persons identified by the COMUE.

Regarding Italy, where Universities enjoy relative autonomy the CRUI should meet with a number of "leading universities", medium sized universities interested in the subject and a few distance universities. It also appears to be necessary to encourage public/private partnerships.

For Spain, where there are non-state trio of main actors (Catalonia, Telefónica, Santander), it is indispensable to join together these actors from the private sector (in the form of non profit foundations), a few key institutions (like the UNED and the OUC) and the presidents conference.

For the United Kingdom, it would be suitable to benefit from the expertise of specialised universities such as the Open University, the JISC and the HEA. It is indispensable to have representatives of the ministerial bodies in charge of universities from England, Scotland and Wales to be able to affect any change.

These conclusions support the idea that, despite a certain level of "Europeanisation" of the university systems, the higher education is partially closed to the logic of convergence (Radaelli 2004). Thus whilst on a general political level, the referential of the importance of transforming university teaching with ICT is well shared, the observation of the policies bear witness to clear differences. Applied to teaching resources, there is not a good or a bad model of production and usage, valid for all European universities, but rather the necessity for each country to form a long term economic institutional model liable to raise the most broad based support. The questions surrounding the economic model and the new forms of digital teaching (OER and MOOC) allow us to identify, country by country, the form of economic model and the major lines of this digital teaching.

Business models for opening up education

Subtitled as Sustainability of MOOCs, OER and related online education approaches in higher education in Europe, this report written by Paul Bacsich, published in April 2016 is designed to provide guidance for senior managers in higher education institutions, mainly in four Member States of the EU – France, Italy, Spain and UK – when they come to consider whether to deploy MOOCs and related approaches, and how to justify such decisions in terms of business models and strategic relevance.

There is a focus on public sector institutions, but the full range of university provision is considered, including the open universities and innovative private providers of higher education. In order to give the work the widest possible relevance to Europe, three other European countries are looked at (Hungary, Ireland and and Belgium Francophone Community) and guidelines given so that readers can research information for their own countries in order to create relevant business models.

The report looks in detail at business models for US-based MOOC aggregators such as Udacity and Coursera, but with the focus on lessons that can be adapted for the European scene. This differs in several ways from the US, including on accreditation issues. It also draws insights from the range of OER, MOOC and online learning developments across Europe.

Massive Open Online Course (MOOC)

Many Member States still have very little activity in MOOCs, but some do have substantial activity, including UK, France and Spain. Apart from France and currently Netherlands, few other Member States have policies and funding to foster MOOCs. Yet MOOC activity is often at a much higher level than can be justified by the university mission and the viability of MOOC business models.

At European level, it is hard to discern the priority that MOOCs have in specific policy terms. There is some EU funding for MOOC implementation, but less than 10 well-known projects and the total number of learning hours delivered by MOOCs in a country is a tiny fraction of overall study hours and usually a small fraction of the study hours delivered by Distance Online Learning (DOL).

The two main MOOC business models are freemium, where everything that really makes the course valuable to learners is paid for by them; and loss-leader, where the institution recovers its costs through increased income on other activities fostered by the MOOCs. Over the years since MOOCs started, the freemium model has been under great pressure. The loss-leader model is most fully developed within the UK.

There is a third business model – civic role – of interest to these institutions expected to have a social mission to the community or the world, and well-funded. A fourth model – hovering – suggests focus on MOOCs while awaiting the return of better market conditions or increased government support of DOL. MOOC aggregators have an additional model, third party – selling student data.

The business models for MOOCs become considerably more feasible if institutions extend "HE" to include elements of vocational and professional training and also if a provider offers a certificate which has an ECTS transfer value but which is not itself for an accredited institution/course.

Distance Online Learning (DOL)

Only a minority of Member States have substantial broadly-based activity in DOL – these include UK, France, Spain and Sweden. A few others have an effective open university or other specialised DOL provider or small group of DOL-active campus HEIs. Apart from France, no Member State has a clear policy to foster DOL. Indeed in some Member States, HE policy is a clear inhibitor to DOL (UK, Ireland, NL).

At European level, there have been several reports on open, distance and lifelong learning but little sign of the reports influencing Member State or institutional behaviours. Even in countries where DOL is active the total number of learning hours delivered by DOL in a country is a small fraction of that from face-to-face.

In a few Member States (neoliberal and speaking a global language), there is a viable business model for DOL. When fees can be close to the economic level and there are no restrictions on student numbers, then each new student is worth having. The model can be made to work even better when the state allows students to draw down a loan for study (UK/England; US – and also for approved private providers). Despite appearances, venture capitalists are most interested in this model, either setting up new private providers, or partnering with existing public providers. This does not mean that it is easy to make money from such arrangements, especially in Europe – though a few providers such as Laureate or RDI (part of Capella) have done useful amounts of business in Europe.

Interestingly, unlike for MOOCs, there are very few developments to flex the business model, beyond various monthly payment schemes.

If there are restrictions on student numbers in theory, it may turn out in practice that due to local factors an HEI may be under its quota (perhaps because it was set in more prosperous times); or that the HEI can lobby its government to have its quota increased; or that in reality there is no quota for part-time or DOL students because the government wants (discreetly) to encourage them.

In a number of countries where higher education is free (for full-time students) it is possible to charge fees to part-time distance learning students (Ireland, France etc). However the fees are not usually high enough to provide a viable business model – unless drastic simplifications are made in the mode of provision – leading down the road of using MOOCs.

Open Educational Resource (OER)

In Europe, there is as yet no viable business model for OER in HE. The North American Open Textbook model, which has begun to work in the US and Canada, has not got started in EU. Reducing the "course" focus typical of MOOCs to a "resource" focus typical of OER makes the business case harder, not easier. Some large institutions claim that the loss leader approach works but evidence is scanty.

Most Member States have some activity in OER in HE, though in some countries activity levels have declined since the period of active state funding (e.g. in UK and Netherlands). In the time of the publishing of the report - with the notable exception of France - few Member States have an ongoing policy to foster and fund OER in HE.

At European level, OER seems to be getting less attention than Open Access and MOOCs. OER material directly specified/developed/curated by the institution forms on the whole a very small fraction of the amount of content a typical student is required to consume – even in open universities.

Open Educational Resource, a lever for digital transition of higher education?

Easy access to educational content for the largest number is deeply rooted in our European history. The question of freely available digital open educational resources (OER) has nonetheless been a particular point of focus in the last ten years for various countries and also for international institutions, particularly in Europe. The production and diffusion of these resources have taken different aspects. They have either taken the form of "reservoirs" of educational resources whose location and access need to be facilitated, or the form of structured and rhythmic training modules comprised of classes, exercises, discussion forums, and evaluations, as is the case with on line education programs and Mooc. Whatever the form, two principles underlie this process: education for all as it is defended by UNESCO and "free", "open", "collaborative", "coproduction" practices etc. carried by the web world for the sake of greater agility and global efficiency.

The media have reflected some great successes, even presenting MOOC as "the" lever for a radical transformation of educational patterns and for a better universal access to knowledge. Firm recommendations have been edicted at national and international level, efforts to mutualise actions have been launched, OER are now included in the field of digital public policies (see our Public Digital Policies in Higher Education – A comparative survey between Spain, France, Italy and the United Kingdom).

Has this mobilization around OER borne fruit in terms of a wider access to knowledge for all? Facing a dual trend of commoditization and opening up of education at world level, are OER an instrument of domination or a tool of equal opportunities and diversity? Is the trend towards sharing maximum resources or rather towards a contextualized and private usage?

Furthermore, will the development of OER lead to an innovation and a transformation of our educational systems linked with the digital evolution of our economy, our society and our culture? What place should it consequently be given to mobilize and educate "leaders" of our systems and institutions?

In the third report published in April 2016 the D-TRANSFORM experts set out to answer these questions, by a qualitative survey of 14 higher education institutions in France, the United Kingdom, Italy and Spain, comparing the results with the field's literature.

The main outcomes from our survey show that despite many reminders from UNESCO or OECD, the establishments did not massively opt for OER. OER production remains essentially linked to public funding, European or international projects. According to the D-TRANSFORM survey, the improvement (in notoriety or cost rationalization for instance) arising from OER production outside such projects does not seem to be fully perceived, as the opening of educational resources remains little rewarded within establishments. Moreover copyright policies are diverse and little known (apart from Creative Commons licenses) and end up in most cases with teachers keeping their ownership.

Various elements collected both theoretically and empirically, confirm that although OER have not yet succeeded in playing the role of a tool for digital transformation in higher educational establishments, it has helped to raise awareness of the potential benefits of distance education. For the moment these developments do not necessarily stem from the establishments' internal strategy but rather from a concern not to "miss out" on something.

The survey found that the nomination of vice-presidents or vice-rectors in charge of digital affairs is an essential element in the recognition of the importance of the digital field in the transformation of higher education. However the depth of future changes implies that the whole governance is aware of the actions needed and feels committed, each in their own field of competence.

The challenge of open on line resources for education is the overall increase of competences in society, a faster transfer of innovation and research, a strengthening of the equality of opportunities whatever the social or geographic background. More than a simple digital transformation in universities, this is a transition, because the university model must change from an "elitist" to an "education for all" system enabling a lifelong education of the widest number of individuals. Digital technologies and openness are reshaping universities; the main issue is that it is not known how and at what speed. Without even realizing it completely, universities are currently being surrounded, penetrated and reshaped by MOOC and more precisely by open as well as by the competition from other national and international universities. The universities adapt to this new situation without questioning the future, essentially because in a world with multiple uncertainties that is constantly redefining itself, it is difficult to make forecasts. Combining short term considerations (rapidly changing matters such as technology and the evolution of professional knowledge requirements for which universities must prepare…) and long term considerations (the time required to implement training, create buildings and achieve cultural appropriation by teachers...), to adapt to the emerging social practices and to the "*uberisation"* of our society makes an agile governance indispensable. In this ever changing environment, universities must both preserve their underlying essential values and remain up to date with an ever-evolving society. Therefore agile governance and to a certain extent *user centric design* are key factors of the digital transition.

For OER to really find their place, a stronger collaboration is necessary between users (establishments, staff, learners) and partners (economic and social ecosystem…). The time has come for better integration of training transformation and digital transition in the overall strategies of establishments. It is in this context that the commitment of establishments' governance becomes crucial and especially the commitment of the rectors, directors and presidents of the institutions. OER and MOOC are steps in the digital transition process within our society and our establishments. The field is open, it is essential that digital transition takes place. The world of education is becoming competitive and it is not only a matter of attracting students but also keeping students who could be

tempted to study elsewhere. Emerging countries are producing OER and on line training and are actors in this newly redesigned landscape in which our universities need to be both universal and specific.

Beyond the obvious contextual differences, it is important to combine our efforts at a European level to create value, reference and initiatives. Digital transition will undoubtedly be at the heart of the new Bologna process.

Conclusions and resources

The presence of Open University in three out of four partner countries as well as the diversity of university models (public/private, free/ high tuition fees, MOOC national platform or not, etc.) gives a context to our relationship with digital education and with the open and cannot be ignored. However there are certain common factors such as the necessity for agile governance and its undivided commitment to digital transition, in collaboration with the actors and the education ecosystem whilst keeping in mind the construction of the European space for education and research.

It has already been indicated on more than one occasion, that the digital culture of governing bodies is essential for a successful digital transition in education, because these governing bodies will define and drive the transformation strategies of their establishments. In particular, information about digital trends, gathering the most promising experimentations, knowledge of future users and their typical practices, in-depth awareness of the new demands of the professional world – these are all key factors for defining a strategic vision and developing an action plan to implement that vision.

The D-TRANSFORM project adapted its two leadership schools organized in November 2016 in Barcelona, Spain and in May 2017 in Nancy, France to the realities observed in the various university environments. Both visionary and pragmatic, “leadership schools” brought enlightened support to governance, able to anticipate whilst remaining anchored in reality, helping to shape tomorrow’s university without renouncing its fundamental values.

The ***Guidelines for governance of HE institutions*** (published November 2016), as well as the previous reports, reveals the themes that are crucial, enabling enlightened governance that is suited to today’s challenges.

The ***D-TRANSFORM MOOC on Digital resources as catalyst for change in university*** launched in May 2017 (and freely available until 2020, hosted by the Politecnico di Milano – METID) also aimed at raising awareness of digital resources, and especially OER and MOOCs, as a strategic factor for university transformation, with a special focus on teaching and learning processes. In addition to that, the course promotes executive reflection on hands-on challenges and offers networking opportunities in a non-formal context, targeting university rectors, vice-rectors, rector’s delegates for e-learning, rector’s delegates for university third mission, deans of faculties, directors of operational units in higher education institutions and anybody interested in the digital strategy of universities.

All above reports are available to download in English and in French on the D-TRANSFORM website, where you can access the MOOC as well.

http://www.dtransform.eu/resources/guidelines-and-reports/

http://www.dtransform.eu/resources/mooc/