



D-TRANSFORM  
TRANSFORMING  
UNIVERSITIES OF THE  
DIGITAL AGE



# OI.AI- PUBLIC DIGITAL POLICIES IN HIGHER EDUCATION

A comparative survey between Spain,  
France, Italy and the United Kingdom

Luis M. RIVERA-VELEZ  
Françoise THIBAUT  
FMSH





# TABLE OF CONTENTS

1. E-education : a multifaceted object for public policies.....	3
2. Digital transformation in European universities : constant ambition, variable objectives.....	8
The partial failure of the “Lisbon Strategy”: a great ambition for little means .....	9
The “Europe 2020” strategy”: freedom as an alternative to the crisis .....	12
3. FOUR COUNTRIES, FOUR PATHS .....	14
National university systems: national specificity vs convergence .....	14
France: omnipresent State vs university autonomy .....	19
Italy: relative autonomy of universities from the State .....	25
Spain: a non-state trio of actors .....	31
United Kingdom: discontinuity in public policies, great successes and big failures .....	38
State action: two significant failures .....	38
The action of specialised institutions .....	39
GENERAL CONCLUSION .....	45
BIBLIOGRAPHY .....	47
About Europe .....	48
About France .....	50
About Italy .....	51
About Spain .....	52
About the United Kingdom .....	53





## 1. E-education : a multifaceted object for public policies

Since the large initiatives in favour of information highways in the middle of the 90's, education has not ceased to be considered as one of the pillars of the development of the *information society*. Therefore ICT integration and development policies in education have continuously been on the political agenda of the various countries. Large international organisations came to support this and presented the alliance between education and ICT (e-education, EICT...) as one of the keys to progress. The underlying idea being the existence of a virtuous circle associating the development of a digital culture, economic and social development and the dissemination of knowledge, with the result of a *knowledge society*.

Thus in this virtuous circle, e-education is a complex object. Namely e-education, understood as a technologically improved teaching, assumes the existence of a referent from which one could consider « improvements ». Are these improvements economic, institutional, educational, rational, or social order? Applied to higher education, the issues of improvement cannot be treated without linking them to higher education information strategies at stake worldwide, and more specifically over the last 30 years in Europe, these strategies also serving universities performances.

A closer look at the actions implemented in the frame of these policies shows a mixture of investments in computer and software equipment for the administrative management, digital resources production, awareness raising actions, job creations as « tutors » or « mediators » ...

E-education is therefore protean as much as are protean the policies leading to it. All analysis work must therefore recognize the « objects » concerned by the current policy. On the basis of Françoise Thibault's work (2006, 2009) we suggest an evaluation grid for the classification of public policies for education with four main headings:

### 1. Equipment

Historically, equipment was the first domain concerned by digital policies in school education as much as in higher education. The





universities research sectors, where communication networks were first invented, were the first to be concerned and this well before teaching. Investment in research projects (networks, R&D projects...) was very high and state participation substantial as shown in the examples, of the data networks RedIris in Spain and JANET in the United Kingdom.

From the 1990's onwards, equipment policies have quickly progressed with technological breakthroughs and have gone beyond the boundaries of research. University administration, teachers, students (the creation of computer rooms) and subsequently incentive campaigns for the purchase of Personal Computers were launched in many countries and institutions . Cable or Wifi internet connections were provided.

## 2. Computerisation of university management

Policies for updating the state apparatus were one of the most important parts of the *information society*. Universities, being public administrations, benefitted from projects for the computerisation of their management. Today in most European universities you can apply, pay university tuition fees and check students records, ... online. These policies, improving university management and increasing efficiency and accessibility of administrative procedures, are little studied in spite of their undeniable success.

## 3. Digital learning: resources and devices

In this matter, it is important not to fall into the phenomenon of « presentism » (Moeglin, Thibault) through which one would imagine that the Web is the only available technique to renovate education. In many countries universities have used radiobroadcasts for their lectures. In France, Radio Sorbonne was created as early as 1947 (Thibault) with the objective to take university out of their walls, and also that new forms of teaching be promoted, for example through « organised dialogues » or programmes accessible to anyone with a radio set.

From the 60's onwards, in many countries one has seen the opening of «distance education» departments in public or private universities (some being exclusively devoted to this activity). Producing education **devices** <sup>1</sup> associating many different techniques (post,

---

<sup>1</sup> Devices are understood as being layouts including application, resources dissemination evaluation and certification.



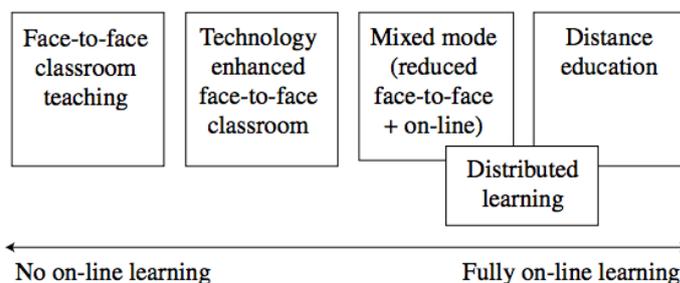


radio, television...) for the broadcast of educational resources, these universities played a part in the development of ongoing training. The arrival of new communication techniques always found an echo with this but the digital world (meaning the alliance between software technologies and communication networks) often led to substantial changes. Thus MOOC <sup>2</sup>(Massive Open Online Courses), latest avatars of distance teaching are frontally addressing education economic models.

In the traditional university setting, attention is drawn to the production of resources in order to improve and/or facilitate the learning process: written resources (photocopies), sound then audiovisual resources, fixed computer files (texts, audio, video) and later with the digital techniques allowing interaction with more sophisticated elements, consulting wide scale data, handling documents, and tailor made auto evaluation (adapted to the needs of the learner). In this way an unprecedented amount of learning resources have been made accessible together with the multiplication of software for sharing these resources. In this flow of learning material, the issues of quality and use become major.

The analysis of many speeches from specialists (equipment manufacturers, computer scientists, TICE specialists, resources producers...) present in most reports made by the main international organisations, allows us to spotlight, starting in the early 2000, the importance of the doxa of the "continuum" in the fields of e-learning. This tends to erase the distinction between face to face teaching and distance teaching and with it the distinction between production of resources and the setting up of training devices.

Figure 1 : The e-education continuum



Source: UNESCO, 2001, p.22.

#### 4. Digital training

<sup>2</sup> Massive Open On Line Courses





ICT education policies are often forgotten in these policies particularly in higher education. Common belief on the digital culture gives the image of "digital natives" arriving in universities with the knowledge of ICT, whilst the self-trained teacher-researcher is bound to be a new technology autodidact. Digital education policies are often "overlooked" in the e-education development strategies, although comparative studies led at European level (ELUE) have shown that this was the key factor for a successful university EICT development policy.

Digital literacy, defined as "the aptitude to understand and use digital technology in every day life at home, at work, and in communities to reach personal targets and widen one's competence and capacities." (OCDE, 2000: X) is no trivial knowledge. Beyond the mere use of ICT, the word literacy refers to acquiring and using e-skills and a digital assimilation in their cognitive structures. If the use of ICT is namely the subject of certain initiatives (for example the European Computer Driving Licence, ECDL) the issue of the interiorisation of a standardized technological matter remains largely unaddressed. Digital literacy (for adults and more specifically for teachers) is more than ever a major issue (Bachsich et alii, 2015) and is actually one of the main impediments to the development of e-education. To create an e-learning resource or conceive a distant device assumes that teachers acquire specific competences.

*Classification table of of e-education objects in higher education*

ICTequipment	University management computerisation	Digital education with :		Digital education
		Educational resources production	Training device development	
Provide tools adapted to the digital culture .	Dematerialise administrative services to improve university services.	Ease access to educational materials.	Offer mixed or distance education for an «life education »	Make various actors « digitally literate ».

Source: Thibault.

The preceding thoughts have underlined that the development of digital education is a difficult issue for university policies. Indeed the implementation of digital education in an institution assumes that the institution is able to produce new education devices (mixed or distant) .The very heart of the education system is concerned by this. A teacher's job now consists of combining





research, lectures and producing educational material; the need for computer scientists, technical experts in the production of educational material or of trained engineers becomes vital.

The interest for e-learning is not new<sup>3</sup> 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 Bachsich(2011) the presence of ICT in universities is a reality but the education transformation has not yet taken place.

The ambition of the D-TRANSFORM project is truly to help university officers to implement strategies to favour the development of an e-education serving all types of education (face to face, mixed or distant). The major hypothesis for this work being that this "strategic advice" to be relevant, must take into account the evolution of university policies both on a European and on a national scale. The framework of the present report has been defined on a fifteen years timeframe so as not to be lured by the "siren songs" of the latest trend supposedly able to overcome all obstacles.

Initially, we shall present the state of the art of public policies in higher education with regards to e-education on a European level. We shall then expose the broad lines of the policies dealt with D-TRANSFORM participating countries, ie France, Italy, Spain, and the United Kingdom. We shall describe these national policies with the aid of the evaluation grid mentioned earlier. Finally we shall investigate 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.

---

<sup>3</sup> See as an example the ELUE Study, 2006





## 2. Digital transformation in European universities : constant ambition, variable objectives

The European Union has played a major role integrating ICT in higher education. Since 1993 Europe has defended the idea that ICT development, and more specifically the Internet, has made it possible to "lay the basis for a sustainable development of European economies" (Europe, 1993: 3) acting as "the arteries of the single market and the blood of European competitiveness" (VEDEL, 1997). In this context, higher education has become one of the priorities of technological modernisation, as it allows, according to European experts, both a spreading of digital culture and the development of new ICT to meet economic and social needs.

University technological transformation has become one of the main ambitions in development projects at a European level and this is still high on the political agenda. However, although transformation objectives have remained constant, implemented actions have evolved with time. This has not been without consequences on the actual changes. Several factors can explain these changes in direction:

- Socio economic situations which shape development strategy and condition objectives to meet the needs of the time.
- European Union institutional evolution including its enlargement and the dynamics of governance associated with the various responsibility scales, and
- Technological "trends" influencing politicians to suggest different alternatives on similar issues.

We have considered three major initiatives to understand the European evolution:

1. e-learning in 2001
2. e-learning renewal in 2005
3. 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	<b>Lisbon Strategy</b> (2000-2010): → <b>Apprendre en ligne</b> (2001-2006)	Promote the use of ICT in higher education to improve quality, access and collaboration.
2005	Mid term evaluation of the Lisbon Strategy: → <b>Education throughout life</b> (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	<b>Europe 2020</b> → <b>Opening up education</b> (2013)	Encourage the Open Education Resources (OER) and more specifically MOOC, to meet with : <ul style="list-style-type: none"> <li>- Students demands of flexible and tailor made education</li> <li>- Companies demands for less time and space constraints for professional training.</li> </ul>

**The partial failure of the “Lisbon Strategy”: a great ambition for little means**

The Lisbon Strategy lays the frame of the ICT development as one of the major objective for the region’s economic and social development. 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”<sup>4</sup> through six actions including education<sup>5</sup>. Whereas within the universities, interest (therefore budget) devoted to ICT has not changed a great deal

<sup>4</sup> <http://www.europarl.europa.eu/summits/lis1fr.htm>

<sup>5</sup> Education and training 2010 : <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11086>





(2004, Europe rapport Virtual models, XXXV), Europe plays a role as an instigator of change placing digital transformation high on the university agenda. Although obviously central, higher education is not concerned by specific measures but merely included in a wider section on education (Muller-Ravinet, 2009).

"The Lisbon Strategy" ambitions are materialised in the e-learning program defining e-education as the education of the future. (Europe 2001-e-learning). The objective of this programme is to promote "the use of multi media technologies and the internet to improve learning standards and facilitate access to resources and services as well as distance sharing and collaboration". (Europe 2001 - e-learning).

Thus "e-learning" ambition is broad based and has the intention of acting on different levels of e-education ie:

- digital infrastructure equipment to create regional research networks
- digital education and literacy especially for teachers to create a digital culture
- digital learning skills to encourage teachers to produce quality computerised contents

Mid term review of the "Lisbon Strategy" progress established in 2005, reveals a lack of or a limited implementation with regards to the initial objectives. There are a number of reasons for this failure. Firstly, whilst Europe supports these developments, State members have little commitment to achieve the objectives as defined at community level <sup>6</sup>. Secondly, universities do not manage to address the socio economic demands of countries and their impact upon growth, employment and social cohesion is seen as very limited if not void. <sup>7</sup>

The answer of the European authority to that observation is the creation of a specific program dedicated to higher education. The concept is to make universities more attractive to improve their

---

6Communication at spring European Council 2nd February 2005 entitled "Working together for growth and employment. A new momentum for the Lisbon Strategy." <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11325>

<sup>7</sup><http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11078>





governance, increase and diversify their financing. <sup>8</sup>Three actions are suggested:

- Increase equipment and connectivity (specially broadband internet access present in the strategy "i2010")<sup>9</sup>
- The development of a holistic approach to higher education with the reunion of the various programs in one "education and training throughout life" <sup>10</sup>between 2007 and 2013 (joining former sector programs such as Socrates, Da Vinci, e-learning)<sup>11</sup>
- The incentive for sharing and disseminating digital resources in open access (as for example "Europeana" launched in 2008<sup>12</sup>).

Changes will once again remain on paper. The economic crises starting in 2008 reveal structural weaknesses in the Union's operations: objectives being too ambitious, open coordination methods (set objectives but no obligations for their implementation), non-specified budget plans. The Lisbon strategy and its EICT update are seen as a failure, and higher education institutions are stigmatised for their delay in digital development at all levels and more specifically in terms of technological research and development.<sup>13</sup>In fact it is the whole higher education/research areas that are in turmoil. Indeed whilst the Lisbon Strategy planned on 3% of GDP allocated to research, the Union only dedicates an average 1,9% (in 2006 for example 2,2% for France, 1,1 %for Italy).

"Europe 2020" a new development plan is launched in 2014.

---

<sup>8</sup> <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11078>

<sup>9</sup> <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11328>

<sup>10</sup> <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=uriserv:c11328>

<sup>11</sup> <http://eur-lex.europa.eu/legal-content/FR/TXT/uri=uriserv:c11082>

<sup>12</sup>For an evaluation of the three programs

<sup>13</sup> <http://eur-lex.europa.eu/legal-content/FR/TXT/?uri=celex:52009DC0390>





## The “Europe 2020” strategy”: freedom as an alternative to the crisis

The development strategy “Europe 2020” 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:

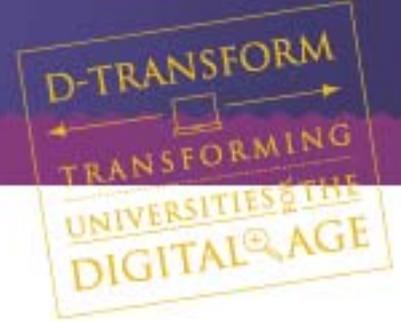
1. In the initiative entitled “One union for innovation” universities are seen as actors for strengthening partnerships and the collaboration between education, research and companies.
2. In the initiative entitled “Youth in action” higher education is designed to favour mobility for students and apprentices to improve their integration into the active world within a global environment.
3. In the initiative entitled “Digital strategy for Europe” universities are seen as source of digital culture to provide equipment and train populations in the use of ICT
4. In the initiative entitled “A strategy for new competences and jobs” higher education is meant to help employees answer the needs of the labour market.

“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. Indeed following the diagnostic of the programme “Re thinking Education” (Europe 2012) and “European education in the world” (Europe 2013) higher education in EU is considered as being very backward and ICT seen as the way of making up for lost time.

The deficiencies found 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 fulfil universities’ needs





The Program "Opening up education", launched in 2013, 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; supports the development and the use of OER: it encourages education institutions to collaborate with the actors of the educational digital market and in particular those with no commercial intention. To the conquering ambitions of the early 2000 follows a new objective of university transformation based on digital pedagogy and digital education.

These actions seek to meet students expectations through an individualisation of education and an attempt for flexibility. A student should be able to choose his/her courses, the place where he/she will learn and the learning methods (Europe 2012, Rethinking Education). MOOC must meet with companies needs as they abolish time and space issues and make higher education accessible (Europe 2013).

If it is not yet possible to evaluate these last programmes, one can however put the evolution of the European approach to university change into focus. Since the introduction of ICT at the end of the 1990's, seen as a possible vector for transforming higher education, Europe has always maintained a leading role in activating members 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, as we pointed out at the beginning of this report, 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?

In the following part we shall take a closer look to qualify the digital policies in four partner countries to outline answers to these questions.





### 3. FOUR COUNTRIES, FOUR PATHS

Many higher education policies favouring digital technologies have been proposed since the beginning of the 21<sup>st</sup> century. ICT are present in all universities at a very minimum with access to computers and networks. Numerous projects -not all viable- are launched across many sectors and we are currently facing a proliferation of institutional or individual initiatives. The first of the state of the art reports, that we intend to create on public policies (visible on a national scale) implemented in France, Italy, Spain and the United Kingdom is based on the exercise of categorisation. We try and understand the objects at stake and see whether a common core of issues emerges, that would allow us to put together a European strategy for change in the universities of partner countries.

In order to carry this work out we have focused on sources from government and state organisms. As EICT policies exist and are part of the institutional history, we have, in the first place, highlighted the main characteristics of recent evolution in the various university systems.

#### **National university systems: national specificity vs convergence**

It is commonly agreed today that most university systems worldwide have been put under tremendous pressure due to the massification in higher education, globalisation which has increased competition and the explosion of institutional financial needs (rarely followed by sufficient state funding) creating a market of higher education which is very particular in many ways (Musselin). A range of reforms has supported these transformations.

In Europe the Bologna Process has created a common framework able to define the university system reform<sup>14</sup>. It was launched when the EU

---

<sup>14</sup>"Bologna's six objectives are as follows : adoption of a system with legible and comparable degrees, adoption of a system essentially based on two curriculum before and after Bachelor degree; implementation of a credit system -equivalent to that of ECTS; promotion of mobility ; furthering of European cooperation in





had no competence in the field of higher education. This determination to build a European Space for Higher Education (EEES) first started without the EU which at this time neglected higher education. This initiative was taken by a few member states who supported the necessity to open up universities to the international market to meet the needs of a global economy : employability, mobility, competitiveness (Muller-Ravinet, 2008). Thus most European states committed to converge on key subjects such as degree system, evaluation by units and European mobility rules.

Although most of these objectives were met, national specificities remained predominant. Whether in terms of governance, financing, recruiting, career, European pressure has not erased university national identities. Whereas in France and Italy, national ministries remained strong, in Spain and the United Kingdom, higher education policies rely more and more upon local or regional authorities. Evaluation and financing agencies have spread but have very different place and legitimacy according to the different countries. Institutional governance (often collectively organised in clubs or "conferences") are more or less listened to by political officials, and it is often a matter of political preference or the university presidents' charisma. The following table outlines the main characteristics of university systems using D-TRANSFORM.

---

evaluating quality ; furthering of the necessary European dimension of higher education ." RAVINET MULLER 2008 p 654





*Actors and specificities of higher education in each country*

	Governmental bodies responsible for higher education	Enrolment rate in higher education <sup>15</sup>	Amount of higher education institutions	Evaluation and qualification Agencies	University presidents meeting Organs
<b>United Kingdom</b>		<b>60%</b> or 2,3 million <sup>16</sup> of which :	<b>161 Higher education Institutions</b> of which :	<b>QAA</b> Quality Assurance Agency for Higher Education	<b>Universities UK</b> And the Russell Group (24 public universities)
<u>England :</u>	<b>HEFCE</b> Higher Education Funding Council for England, dépendant du BIS (Department for Business, Innovation & Skills)	1,9 millions	132		
<u>Wales :</u>	<b>HEFCW</b> Higher Education Funding Council for Wales, dépendant du gouvernement gallois	129 000	9		
<u>Scotland :</u>	<b>SFC</b> Scottish Further and Higher Education Funding Council, depending on Scottish government	215 000	18		
<u>Northern Ireland:</u>	<b>DEL</b> Department for Employment and Learning	52 000	2		

<sup>15</sup> World Bank Data, 2013, given in percentage of the 5 year group's general population after secondary school

<sup>16</sup> Higher Education Statistics Agency



	Governmental bodies responsible for higher education	Enrollment rate in higher education(2013) <sup>17</sup>	Amount of institutions in higher education	Evaluation and qualification Agencies	University presidents meeting organs
<b>France</b>	<b>MENESR</b> Ministère de l'Éducation nationale, de l'enseignement supérieur et de la recherche	60%	75 universities	<b>AERES</b> Agence d'évaluation de la recherche et de l'enseignement supérieur	<b>CPU</b> Conférence des Présidents des Universités
<b>Italy</b>	<b>MIUR</b> Ministero dell'Istruzione, dell'Università e della Ricerca	86%	83 universities (of which 50 public)	<b>CNVSU</b> Comitato nazionale per la valutazione del sistema universitario	<b>CRUI</b> Conferenza dei Rettori delle Università italiane
<b>Spain</b>	<b>MECD</b> Ministerio de educación, cultura y deporte	62% (2012)	94 higher education institutions (of which 55 public)	<b>ANECA</b> Agencia Nacional de evaluación de la calidad y acreditación	<b>CRUE</b> Conferencia de Rectores de las Universidades españolas

These simple distinctions spotlight the heterogeneity of the systems under study. The degree in autonomy and the funding methods follow very different logics. Future developments will emphasize these differences. For example in 1988 following the progressive cuts of public funding of higher education in the United Kingdom, England considerably increased tuition fees, as did Wales in 2007, whilst France kept a state funded nearly free university system.

*Universities autonomy, in percentage according to the sector*

	Spain	France	Italy	United-Kingdom
<b>Organisational autonomy</b>	55%	59%	56%	100%
<b>Financial autonomy</b>	55%	45%	70%	89%
<b>Human resources autonomy</b>	48%	43%	49%	96%
<b>Academic autonomy</b>	57%	37%	57%	94%

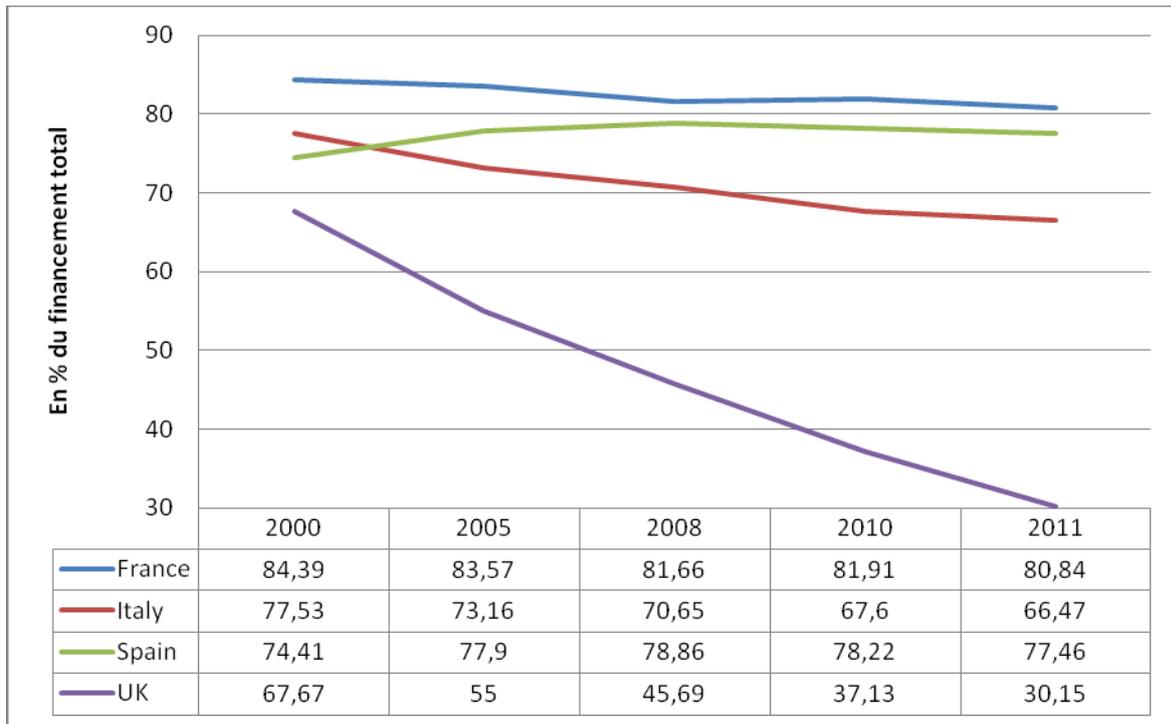
<sup>17</sup> World Bank data, 2013, given in percentage of the 5 year group general population after secondary school.



Source : EUA , 2011.



Evolution of higher education public funding 2000-2011



Source : OCDE, Education database.

To the previous data, we should add a reference to social heterogeneities. With the economic crisis in 2008, the demand for higher education grew in Spain and diminished in Italy. Whilst in the United Kingdom, the gradual withdrawal of finance from the State universities led to a differentiation within universities. In France, the search for the solution to the equation "improve universities performances" and "limit the answers to their financial needs" produced a movement of mergers based on the supposed benefits of mutualisation.

Are there such discrepancies in EICT related policies? Did the frame built by Europe and their successive plans have a greater impact on this particular sector? Can one identify common development characteristics which could give life to a European system of EICT, e-learning education MOOC, OER? Are there large long lasting educational programmes common to several countries?



## France: omnipresent State vs university autonomy

The State is a major actor in the university transformation process in France. In a very centralised system, French universities are strongly dependent on government directives and on the MENESR for their development strategies. When it comes to e-education, the State has initiated many policies in the fields of equipment, distance education, network development and resources production...

Nevertheless, at the end of 90's the State started a policy of developing more autonomous universities (Musselin, 2001). This policy will be maintained until the mid 2000 when the State is committed to a strong willed policy in favour of university grouping (PRES). Research and Higher Education Poles (PRES) were created in 2006 by the Law of Orientation for programme and research. The success of PRES is presented as a "progressive accession of French universities to autonomy". There were 26 PRES in September 2012. Political alternation in 2012 led to a review of the orientation law. A new law passed in July 2013, replacing Research and Higher Education Poles by a regrouping of universities according to three modes: institution merger, institution association and the community of university and institution aka COMUE. The name has changed but the intent remains to oblige universities to merger. The government pressure is strong as the institutional funding depends on the affiliation to a group. It is, to some extent, the return of the omnipresent state in the name of autonomy leading to a very "slimmed-down" contract with the State.

For French universities, one can speak of a "theoretical institutional autonomy" and outline the omnipresence of the State, initiating large structural changes, holding the line for quality improvement and almost free access to University. Does the same apply to the field of e-education?

### French State: the pilot for change

Compared to other European countries, digital education is mentioned early on policies agenda for French universities. Giving up on the equipping of universities, the State chooses to support distance education in the frame of the "public service"<sup>18</sup>. Namely, from 2000

<sup>18</sup> Speech delivered by Mr Jack Lang, Minister of Culture at the Salon of Education, 22 November 2000





to 2002, calls for projects are launched for the creation of on line university degrees in the frame of the digital campus programme.

The programme's objectives are the following:

1. Improve higher education developing the use of ICT
2. Introduce open and distance education in order to broaden the offer for university curricula to populations with little access to higher education
3. Make French education more attractive especially internationally.

Through three calls for projects, 90% of French universities have committed to at least one "digital campus" with a financial support of 13,5 million Euros.<sup>19</sup> The State pilots the projects for the whole territory. This state action is redefined from 2002 with the political alternation. Under the argument of a weak scientific evaluation and a lack of interest for distant education in favour of on site education, the "Digital Campus" programme is re orientated. The State puts the focus on the production of education resources and comes back to a procurement policy and to objectives "clearly less linked with the proposition of an on line education offer strictly speaking" (DECEUNICK, 2007: 173).

The government supports actions in favour of digitalisation and dematerialisation of university services in the **Digital Work Environments** (ENT)<sup>20</sup> in a logic of accessibility of the public service to higher education. This programme is an element of the general plan of modernisation of public administration.<sup>21</sup> It consists in a regional level in a **Regional Digital Universities** (UNR) including an equipment side. 17 UNR are created as student services web sites.

---

<sup>19</sup> Among which only 8M Euros come from higher education budget strictly speaking (THIBAUT, 2007)

<sup>20</sup> ENT are included in the Digital Campus Projects in 2002 but are extended to the whole institution with ENT main scheme emanating from the ministry in 2004.

<sup>21</sup> Plan RE/SO 2007: For a digital Republic in the information society, launched in 2002.





Under the angle of education devices, at that time digital education becomes secondary and both equipment and infrastructures find a prominent position again. However under the angle of the production of educational material the State's action is sustained: 7 **Digital Theme Universities** (UNT) are created whose mission is to produce and make available education resources.

Instead of encouraging the creation of educational devices such as during the Digital Campus era, the State chooses to focus on infrastructures and to finance the production of educational resources with no guarantee of its use. But existing resources however are not necessarily used. A study conducted in 2011 shows that over 20 000 resources are available on the UNT but are little known and little used both by students and scholars (Boyer 2011).

The State as pilot for change, shows little appetite to evaluate (in the positive sense of the word) its policy unless it is designed to justify a re orientation (Digital Campus). Is this not an issue for UNT to have been redesigned for years without any long term thought being undertaken either on a State or on an institutional level? Why not allow institutions to implement actions in favour of digital education assuring the use of these resources?

#### University autonomy: a much forgotten objective of digital policies

The question of autonomy is back on the agenda on the occasion of the political alternation in 2007, with the enactment of "the law related to university freedoms and responsibilities"<sup>22</sup>. An important step is made as, not only must each university establish the guidelines of their orientation programmes without the State interference every step of the way, but they also acquire a larger financial autonomy as payroll management is transferred to the institutions. Eight general objectives are then set amongst which the development of digital technology. Every university is now obliged to define a guiding digital scheme on the basis of a methodological handbook conceived by the MESR and the Conference of University Presidents (guide Digital universities 2009). In this period the State focuses its interventions on equipment policy <sup>23</sup>. Universities have the responsibility to define their strategy allowing other dimensions such as the development of digital

<sup>22</sup> Law N° 2007 – 1199 of August 10 2007 related to universities freedoms and responsibilities

<sup>23</sup> In 2009 with 10millions euros provided to install Wifi hotspots in public universities





education. With such meaningful institutional upheaval and without State support, universities do not commit massively or strategically in digital education.

In 2013 a few months after presidential elections, the State pursues the issue of the transformation of universities by digital technology and initiates a new strong willed policy. The government defines a new strategy "France Université Numérique (FUN)" designed to modernize higher education. At first, it very much looks like the preceding "Digital Campus" thirteen years before.

Thus FUN aims at

- Speeding up changes via digital technology with the creation of a "digital officer" in all institutions . They are in charge of coordinating the institutions actions and of meeting the demands of the State in terms of evaluation. They help the state spread good practices.<sup>24</sup>
- Encourage the creation of OER and MOOC through the financing of a national platform for MOOCs "FUN-MOOC". The state finances the platform both in order to reduce development costs and encourage institutions to invest in the production of resources. It is planned that the management <sup>25</sup>of the platform will be provided by a group of institutions.

These two initiatives are actually quite different. Whereas the " Digital Campus" programme focused most of the financial support on the production of resources, device and staff training, FUN funds in priority the production of a software platform aimed at competing with the main MOOC international platforms (such as Coursera or Udacity) . Should the choice of international visibility not be a matter for each institution?

Therefore, more than in other sectors, French universities are only theoretically autonomous in their digital policies and their dependence to the State remains strong. This observation can be read in two different ways: negatively, as the constraint plays against institutions strategies (FUN platform)

---

<sup>24</sup> As example the project « Campus d'avenir" through ten French and international examples shows amphitheatres, class rooms, libraries but also informal spaces such as cafeteria where the use of TIC is improved (2015 Campus d'avenir)

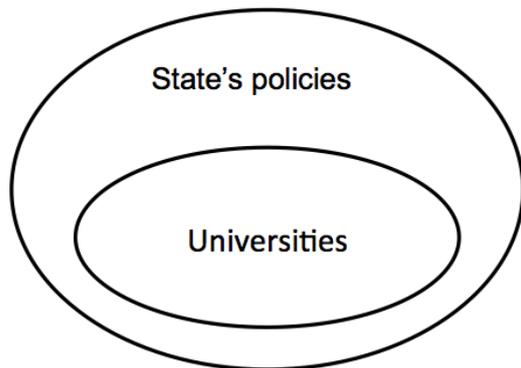
<sup>25</sup> In 2015 the management of MOOC FUN will be handed over to a group of institutions





positively as over the last 15 years, all universities have developed a EICT strategy.

Institutional Ecosystem of university digital transformation in France



The government's latest initiative, the creation of a "Grande Ecole du Numérique" whose purpose is to coordinate and label on line education<sup>26</sup>, furthermore strengthens the state power. One of the issues of this Grande Ecole will be to insure a good coordination with universities who, so far, have not been included in the process. The initial focus of this Grande Ecole will be on school education.

<sup>26</sup> <http://rue89.nouvelobs.com/2015/03/05/grande-ecole-numerique-hollande-prevue-septembre-258055>





Summary table of public digital policies in France

	ICT equipment policies	University management computerisation policies	Digital education policies with		Digital training policies
			Educational resources production	Educational devices development	
Campus Numérique 2000-2002			Include ICT in traditional education.		
ENT 2002		Digitalisation of all university services : administration, teaching, library, student life.			
UNT 2002			Make educational resources available by disciplin.		
UNR 2002		Gather information and services on a regional level.			
C2i 2004					Give students and teachers necessary ICT competences
Plan RE/SO 2007 2002	Computer provision.		Free digitalisation of face to face courses.		
France Numérique 2012 2008	WI FI Equipment.				
Schéma directeur du numérique 2007		Methodological guidebook for the conception of a digital governance by the institution.			
FUN 2013	« Campus d'@venir » guide for the renovation of training spaces.	Obligation to create a position for a person in charge of digital technology in each institution or grouped universities.	Construction of a MOOC platform at national level.	Incitation for MOOC creation .	





## Italy: relative autonomy of universities from the State

Since 1999, Italian universities benefit from a strong level of autonomy<sup>27</sup>. This implies the freedom to define development strategies, private fundraising or joining international networks. However in practice, public action remains crucial in many fields especially in the field of ICT development in higher education.

This commitment is relatively late with regards to current accelerations. At the beginning of the 21<sup>st</sup> century, ICT are not on the agenda of the vast majority of heads of Italian university and only with the intervention of the state in the years 2001 and 2002 will the issue of the EICT be written on the institutions agendas. The state played a triggering role but in what form? Did it launch large scale programmes such as in France?

Taking a closer look, actions and investments are very different. Initiatives in favour of EICT do not come from the Ministry in charge of Higher Education. University issues have been included in the modernisation programmes of public administration (with a special focus on university equipment and management). The state has merely set a legal framework to allow access of investments and private stakeholders on the on line education sector.

### Modernisation based on the combination of public and private funding

In 2001, the new government gives great importance to the technological modernisation of the country. As one of the slogan of the "information society " puts it in the "Lisbon strategy", the Italian government promotes the **Digital Reform** (*Riforma Digitale*) aiming for all sectors of the society (Doc 2002) and targets its actions on equipment and computerisation of the public administration. With a budget of 3,5 billion euros for the whole of the programme, numerous actions are launched between 2001 and 2006 (*Riforma Digitale 2006*):

- Through low interest loans and other incentives, citizens are encouraged to buy computers with programmes specially focused on families, teachers and students. For students, the programme "Un c@puccino per un PC" facilitates a bank loan for the purchase of a laptop under the condition of paying back one

<sup>27</sup> Decree N°509 of November 1999 related to rules related to education autonomy of universities published in the Gazzetta Ufficiale N°2 June 4<sup>th</sup> 2000. Available on C/0012Docume/0098nNormat/2088Regola.htm





euro a day (same slogan in France where "cappuccino" was replaced by "coffee")

- Modernisation of public administration including public universities through the use of technology for the administrative procedures. Access to documents, payment and communication become a "right" for citizens. <sup>28</sup>
- Incentives for cooperation between public and private through "Large national systems in network" (*Grandi Sistemi Nazionali in Rete*) linking central administration, local administration and private sector. This directive encourages a larger participation of private capital in the university system especially for distance education.

In the frame of the Digital reform, private and public partnerships in higher education will be based on very different actors. Two initiatives hold our attention: the CampusOne programme led by the CRUI and the creation of "Telematic Universities".

The **CampusOne** project aims at being a demonstration of the strong commitment in favour of the transformation of universities by ICT, supposedly in agreement with economic and social transformations of the "society of knowledge and information" (presidenza del Consiglio dei Ministri, 28th march 2001). The project aims at combining administrative modernisation, equipment procurement and massive use of ICT in education either as a support to the face to face teaching or by promoting distance education (CRUI, 2003, p.96-98). It is a matter of encouraging the development of appealing and innovating teaching methods to win over both students and companies.

Launched in 2001 and extended until 2006, this programme benefits from a government financing of over 100 million euros, concerns 70 universities, the training of 270 undergraduate (500 in total) 50 000 students and 9000 teachers . It is a very ambitious project in terms of learning innovation. CampusOne implies that its experiences be widely developed on a national level (CRUI, 2003.P.108) and the Fondazione CRUI, the operational arm of the Conference of the Rectors of Italian Universities (CRUI), leading the project should have a bridging role.

---

<sup>28</sup> Code « Codice dell'Amministrazione Digitale » in force from 1st January 2006 (Doc RIFORMA DIGITALE, 2006, p12).





Simultaneously in 2003, the government creates **"telematic universities"** in charge of on line distance education.<sup>29</sup> It confers these institutions an equivalent status to traditional universities reserving the right to evaluate them without financing<sup>30</sup> them in the first place. Between 2004 and 2006, 11 telematic universities were created, some of them are linked with distance education consortiums in existence in Italy since the 90's. These universities benefit from a strong financial autonomy because of their private status but will soon be eligible for public funding.

Thus, the first telematic universities benefit from public funding from 2010, using the same system as traditional universities.

Denounced by certain people as a Trojan horse for the privatisation of higher education, information and communication technologies have many uses as has been illustrated. Italy is a good example of this privatisation in the making.

#### The challenges of the public/private alliance

The alliance between the private and the public sector in Italy is not without its problems. Two parallel paths are followed by public policies. Firstly, the policies of modernisation of the state apparatus embark universities in modernisation strategies. In 2009, the "e-Gov 2012" strategy provides universities with WiFi connections undertaking a rebalancing between Universities in the North and the South of the country<sup>31</sup>. University management is the subject of a large programme<sup>32</sup>. In 2012 the programme "Agenda Digitale" aimed at increasing internet debit in universities (*BandaUltralarga 2014*).

The issues of university education are left for universities to deal with. From one institution to the other, digital strategies can be very different, the choices can be:

---

<sup>29</sup> Ministers of Education, University and Research (Moratti) and the Minister of Innovation and Technology (Stanca) through Ministry Decree of 17 April 2003.

<sup>30</sup> Law N°289 27 th December 2002 aka 2003 finance law art 26 par 5 states " with no extra charge on the state budget"

<sup>31</sup> This project deals with 50% of Northern universities (under the scheme Campus Digitali) and 100% of Southern universities (under Wifi South) more over the project reserves a space for institutions of higher artistic and musical education (AFAM, alta formation artistica e musicale) under the name AFAM Wifi bringing internet to 50% of students

<sup>32</sup> Administrative digitalisation of universities (MIUR)





- Joining international higher education networks in search of prestige and recognition. Only a few famous universities such as *Sapienza University* in Rome or *Ecole Polytechnique* in Milan have this ambition, generally coupled with the will to develop "digital education" aiming at a stronger international attractivity.
- The search of alternative funding to the State such as European funds, for developing specific projects. This is the case for example of the OER sharing platform of the *Frederic II University of Naples*, "Federica" developed with the European Fund for regional development FEDER (article 2001 Federica)
- The desire to establish in the institutional landscape. We are thinking of the legal suit of 7 telematic universities who refused in 2013 the non certification by the state evaluation agency (ANVUR) of their on line course.

In other words, the partnership between public and private sector is stormy and does not allow to solve inequality issues. The Italian university system remains very contrasted between the North where universities are very connected to international networks and the South where universities suffer from a lack of means. Digital technology has not yet made a rebalance possible. Specific financing such as FEDER have only marginally solved the problem, and without a long term stability, the survival of the project cannot be guaranteed.

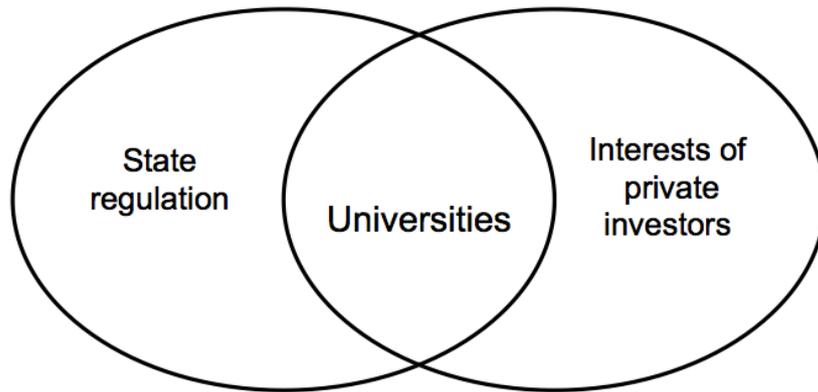
The development of "telematic universities" within a private environment reinforced the split between face to face education and on line education, increasing the differences and stigmatising distance education as in the past (Thibault, 2007). With no organic link to research "Telematic universities" are fundamentally remote from traditional universities (RAGONE 2008). Consequently, certain traditional universities have erased a mode of training perceived as being against their principles from their agenda.

As a conclusion, caught between private investors developing a new market for higher education and the State sustaining equipment programmes, traditional universities are naturally not inclined to develop TICE, although a few exceptions developed niches in which ICT are used for education purposes. Moreover a few prestigious universities, plead for the renewal of education via digital technology and the production of large scale MOOC.





*Institutional ecosystem of digital university transformation in Italy*





Summary table of public digital policies in Italy

	ICT Equipment policies	University management computerisation Policies	Digital education Policies with Educational resources production		Digital training Policies
			Educational devices development		
<b>Riforma Digitale</b> 2000-2006; And more specifically : <u><i>CampusOne</i></u> : 2001-2006	Students Loans for the purchase of computers.	Promotes the use of ICT for university management and governance.	Encourages the development of innovating teachings in ICT use.		Digital literacy for the whole population.  Training and empowerment for the European computer driving licence(ECDL).
<b>Università Telematiche</b> 2003				Certifications of on line distance trainings.	
<b>e-Gov 2012</b> 2009	Wifi Equipment	Digitalisation of university services.			
<b>Agenda Digitale Italiana</b> 2012	High debit wifi Equipment.				Encourages ICT training for economic transformation.
<b>Talent Italy</b> 2014				Competition for the creation of MOOC.	





## Spain: a non-state trio of actors

The development of ICT in Spanish higher education has known a particularly chaotic history. Spain is an early adopter of ICT with, for example, the creation of an inter university network through the data sharing network (RedIris) in 1985, or the massive production of MOOC placing the country on top of the list of on line courses creators in Europe<sup>33</sup> in the last few years.

This position is not only due to the state. The competence of higher education is in the hands of autonomous communities although the state completed, in certain cases in a decisive way, actions in favour of EICT. Therefore, digital transformation often finds its origin in the institutions themselves and their capacity to interact with various actors in the sector such as private companies.

### Surreptitious action of the state

The Spanish State despite its lack of competence in higher education, played a role introducing ICT in universities. Indeed the Spanish government has brought meaningful financial support to equip public universities and students. Moreover in the frame of the state funded **National University for Distance Education** (UNED), the state had the ambition to make an offer of distance education available throughout the territory. This is quite significant in a context where regional territory is the reference framework.

In terms of equipment of universities and students, the Spanish state was not the first to invest but certainly the one who invested the most. After the failure of the first project "Society of information" INFO XXI (2000-2005) which did not succeed in reaching either the private sector or families, the state reconsidered its action and made nearly 4,5 million euros available for students between 2006 and 2009 and developed a

---

<sup>33</sup> According to the MOOC scoreboard in [openeducationeurope.eu](http://openeducationeurope.eu)





modernisation programme for universities.<sup>34</sup> The *Avanza plan* offers the purchase of computers by students through loans (3000 euros refundable after 5 years) and launches the project "Campus in network" (Campus en Red) to provide public universities with a wifi internet connection. All together 44 university campus will benefit from financing from June 2006 and 2008, or 100% of registered universities (out of 50 public universities) benefiting 1 200 000 students .

Budgets are substantial with regards to state competences, they mainly show a commitment in favour of a computerisation of society. Thus higher education will not be a priority in the following modernisation plans (Plan Avanza 2, 2009, 2012, Agenda Digital since 2013). The only permanent state commitment in favour of a digital and distance education remains UNED.

#### The UNED: back on a great national initiative

As early as the beginning of the 70's, the Spanish state maintains that distance education can be a way of educating adapted to social movement (Ref law 1970)<sup>35</sup> in 1972, the UNED is created it relies on an education device using media (mail and radio from start) later on TV (from 1991) then internet. Simultaneously, the UNED develops research activities on distance education and the use of ICT in higher education. (GARCIA 2006: 40-42) Many experiments are launched in this frame: the use of videotext to transfer information and communication between tutors and students in the beginning of the 90's, the first Visio conference classes (1993) the use of internet as a privileged transmission and communication tool within the university. In 1998, all UNED employees both scholars and administration staff are provided with connected computers. An intra network is displayed. A few years later the Digital plan (plan de virtualizacion) allows for the digitalization of a lot of

---

<sup>34</sup> Source between 2006 and 2009 : 114 000 for students loans (Agenda Digital = line) and 4,3 million euros for Campus en Red (card p 44 Campus en Red) /listadoActuaciones.pdf

<sup>35</sup> This university is not an Open university (such as the Open University UK) since access to classes requires the same obligations as the ones demanded in face to face universities.





materials and to prepare for on line courses. A range of services are mainstreamed (personal emails, and discussion forum). The role played by the **Technological Innovation and Development Center** remained major in this range of developments.

The UNED has become an essential pole of expertise in terms of digital education spreading its influence all over the territory as well as in many Spanish speaking countries. Its specialisation in the field of distance education and the uniqueness of its public characteristic made UNED more of a competitor for other public universities than a support for education transformation.

### The actor of the change

In the middle of the 90's many Spanish universities support the use of ICT in at least one of the following sectors: management, teaching, research (BRICALL report p 456), state commitment is then weak although several autonomous communities and companies are showing interest to invest in the sector. The most iconic case is the community of Catalonia which finances the creation of the **Universitat Oberta de Catalunya (UOC)** <sup>36</sup> .

Created in 1994 as an answer to the absence of teaching in Catalan within the UNED, the UOC develops distance education as a complement to the region's face to face universities in the objective of improving social integration (Duart et al., 2006). It is one of the first universities to have been conceived from the start being fully on line to make teaching more flexible and ease interactions amongst students, teachers, tutors and improve communication within the institution. The UOC claims to be designed upon the preoccupation of a student seen as a client (client oriented education). The applications and virtual work environments are conceived to produce the traditional social schemes and innovation is sought after in the way "to study virtually" (SANGRA, 2006).

Other initiatives are taken locally such as the pooling of education resources between universities of the same region or agglomeration: Catalonia (Intercampus), Andalucia (Campus Andaluz Virtual<sup>37</sup>) from 2007 to 2014) Madrid (Aula a Distancia Abierta, ADA). They give the opportunity to create consortiums, put

<sup>36</sup> The UOC has a non profit foundation status its main financing source is the region of Catalonia.

<sup>37</sup> <http://www.campusandaluzvirtual.es/node/12>





together “virtual campuses”<sup>38</sup> and mutualize the production of resources.

The conference of the presidents of Spanish universities (CRUE) accompany this movement. In 2000, the CRUE opens a new branch dedicated to ICT (CRUE ICT) in charge of advising institutions in their digital strategies. “The main objective is to fill in the gap between ICT plans on a national and transnational level as well as the strategic plans of certain universities”(UNIVERSITIC 2009 p 13). To help with this process the CRUE ICT delivers the UNIVERSITIC report every year since 2007, giving a general state of the art overview of ICT integration in Spanish universities. This report was used as a reference for the creation of a strategic ICT development model in universities named GTI4U, aiming to instore a quality governance in universities according to ISO rules.

Unlike other surveyed countries, Spain could rely on private non profit investors supporting the development of a digital education. These actor are mainly the Universia Foundation dependent on the Banco Santander and, to a lesser extent, the Foundation Telefonica on digital education (Telefonica Educacion Digital) supporting on line education towards Latin American countries.

Created in 2000, Universia is a consortium aiming at putting together education resources between universities. All Spanish universities are members of the consortium working on international level. In 2003 Universia signed an agreement with the MIT for the translation and the publishing of MIT OCW education resources in Portuguese and in Spanish before launching their own platform in 2007: Universia OCW. Since 2013, thanks to Universia and Telefonica Educacion Digital, Spain benefits from a national platform targeted at the Spanish and Portuguese speaking worlds and competing with a tool such as Coursera .

The intervention of private actors in Spain did not imply the allegiance to any technical device, or specific model. It allowed for the production of large quantities of educational resources with each university concentrating on their own strategy (Oliver

---

<sup>38</sup> From 23 in 2002 to 44 in 2003 on a total of 67 universities according to UNIVERSITIC 2004 : 33





et alii, 2014: 17). UNED for instance developed in 2007 their own OCW with the support of Universia ; in 2012 they opened a site for OER (UNED ABIERTA) and in 2013, a portal for MOOC (UNED COMA). UNED is the main institution producing OER and MOOC in Spain.

The 2001 Organic law on Universities did not leave the digital issue in higher education behind. They put on the agenda the creation of a centre for higher education on digital studies (Centro Superior para la Enseñanza Virtual, CSEV) created only in 2010 thanks to Telefonica, Santander and Hispasat private fundings. CSEV was placed under the UNED control with the objective of coordinating research and production for a quality on line distance education. It is worth mentioning that the first project developed by the center was dedicated to the definition of quality indicators for digital education in collaboration with ANECA.

In other words, the absence of a national plan for the digital transformation of universities in Spain did not disincentive the development of digital education. Good relations maintained by the State (on a central and on a local level through autonomous communities) and universities with the private sector, allowed to push forward many actions of education resource production or distance education devices, the latter being concentrated in two institutions: UNED and UOC. The increase in the demand for distance education in relation with the 2008 economic crisis ( + 33,4% for EAD in September 2009 against +5,7% for face to face education) first benefited UNED, who takes up to two third of the applications in spite of the presence of new institutions recognized in the sector<sup>39</sup> (CRUE, 2015 : 12 uni en cifras2014)<sup>40</sup>. The field of digital education in Spain is characterized by a triad of actors: public (autonomous communities), private (through non profit foundations) and leading institutions such as UNED and UOC. The current decrease in the public budget on national level and autonomous communities goes along with reducing universities' creation, procedure, recognition and accreditation. (Decreto 2015) In the long run this might

<sup>39</sup> Between 2008 and 2009 4 private distance on line universities are created : the international Rioja University, Madrid Distance University, Isabel I de Castilla University and Universitat Internacional Valenciana.

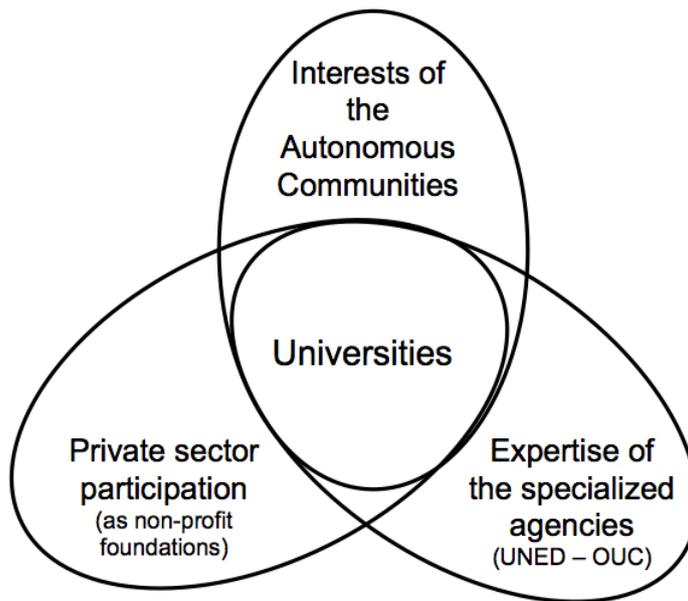
<sup>40</sup> For the beginning of the 2009 year the demand for face to face universities increases by 33,4% (against 5,7% for face to face education) this is relatively important in the case of the only public university UNED with 20 000 new students in 2009 (+37,7%) against a 8,3% increase in private universities (keeping in mind that UNED alone has 88% of non face to face students ) REF : curso20092010.pdf





jeopardize public universities and leading institutions for the benefit of private institutions impacting on costs and teaching qualities<sup>41</sup>.

*Institutional ecosystem of digital university transformation in Spain*



<sup>41</sup> This legislation goes together with the establishment of a teacher student ratio between 1/50 and 1/100 according to the level of presence to the training





A few examples of public policies for digital education in Spain

	ICT equipment Policies	University management computerisation policies	Digital education Policies with		Digital training policies
			Educational resources production	Educational devices development	
RedIRIS 1985	National data sharing university network				
<i>In Catalonia</i> : UOC 1994				Creation of distance on line training.	
<i>UNED: Plan de virtualización</i> 2001		Digitalisation of university administrative services.	Adapt courses to ICT.	Conception of distance on line courses.	
<i>Regional Consortiums for distance education</i>			Availibility of on line des cours en ligne sur une plateforme partagée.		
Plan Avanza 2005-2009	Student loans for the purchase of computers and provision of wifi connexions on campuses.				
<i>Universia</i> : OCW 2007			Incentive for the OER production and creation of depositaries.		
<i>UNED</i> : OCW 2007			Free distribution of UNED materials.		
<i>GIT4U</i> par le CRUE 2009		Governance method of digital transformation.			
Plan Avanza 2 2009-2012					Incentive for training on digital material creation.
CSEV 2010				Development of a digital education.	
<i>MiriadaX</i> 2013			Creation of a platform for MOOC distribution.	Incentive for the production of MOOC .	
<i>UNED MOOC</i> 2013				Commitment for the production of UNED's MOOC.	





## United Kingdom: discontinuity in public policies, great successes and big failures

Higher education in the United Kingdom invested very early in computing. British universities have been very committed to the creation of equipment and data sharing networks (first computer in Cambridge the JANET network for university data). In the field of distance education, investments have been substantial. Thus in a period of rarefaction of state funding, a meaningful investment has been attributed to an on line university project. As in Spain, the State does interfere, although higher education falls within the competence of each "region" forming the country and that there is no coordination instance for national strategies. The presence of actors experts in the field of e-education and their action on the territory has unquestionable effects upon the coherence of actions at national level.

### State action: two significant failures

In 1996, the agenda in favour of the « information society » places, like the American strategy in favour of « information highway», education at the centre of the country's modernisation <sup>42</sup> and in 1997, the *Dearing report* highlights the need to modernise the university to improve access and learning efficiency (Dearing, 1997). These orientations lead to two state controlled great projects: *University for Industry* and *UK eUniversity*.

**University for Industry** (UfI) is an organisation created in 1998<sup>43</sup> aiming at making the bridge between the demand of the economic sector and the education offer. Thus, UfI is in charge of creating new resources and ICT based educational devices to develop education throughout life. The institution aims at innovating in the fields of e-education, especially via public-private partnerships. Three years after the launch of the programme, few educational curriculum are fully developed and learning innovation is scarce. (OCDE 2001 :59). In 2005-2006, an evaluation done by the Parliament underlines the importance of UfI public financing: 930 million Pounds Sterling for 4 million users, the diversity of issues: no private investments contrary to the forecasts, high marketing costs, weak rates of full

<sup>42</sup> [office.co.uk/pa/ld199596/ldselect/inforsoc/inforsoc.htm](http://office.co.uk/pa/ld199596/ldselect/inforsoc/inforsoc.htm)

This legislation goes together with the establishment of a teacher student ratio between 1/50 and 1/100 according to the level of presence to the training

<sup>43</sup> In 2000 a specific program is created in Scotland: *Scottish University for Industry*.





curriculum (around 65%) (Uflb y commons, 2006). Following these evaluations, the State disengaged and handed over the institution to private investors (Lloyds Development capital).

The case of **UK eUniversity** (UKeU) is quite similar. Created in 2000, the objective is to develop a fully on line higher education. UKeU seeks to collaborate with the country's universities to offer them international access for e-education. Thanks to the aggregation of resources, it intends to give more visibility to British universities and promote them versus their « North-American competitors». An increasing commitment of the private sector was initially planned. In 2003, in spite of a public investment of 50 million Pounds, only 900 students applied (5.600 were expected) and no private sector company embarked on the adventure. A large amount of the financing was used for the conception of dissemination tools (especially an on line platform) ; investments towards a new digital education were very weak (Chabert, 2006). The government put a term to UKeU in 2004 after the Parliament evaluation stated a deficient management, an offer-based rather than demand-based project, and an anecdotal technological and educational research (Parliament, 2004). In this report, the government's lack of expertise is pointed out, it could be bound to :

- A definition of distance education limited to on line education. Consequently, the Parliament proposes a reasoned inclusion of ICT according to the curriculum (blended training) tailor-made to students' requests (Parliament, 2004 p.13).
- The absence of cooperation of UKeU with existing structures, such as the British Council or the *Open University* expert in partnerships and learning.

The failure of UfI and UKeU will have an impact on the State's action. It clearly shows the State's disengagement on the university issue and the strengthening of prerogatives of each constituting nations of the United Kingdom with strong strategic divergence . It also participates to the reinforcement of the support for universities autonomy. It signals the end of the era of national initiatives to the benefit of local initiatives better designed to meet with users' needs. It is the come back of specialised institutions.

### The action of specialised institutions

Following these failures, three institutions come back on digital university center stage : **Open University**, the **Higher Education**





**Academy** (HEA) and the **Joint Information System Committee** (JISC). Principally funded by public funds and benefiting from a great independence. They appear at a time when, following these disastrous projects, university governances are starting to display ICT as a priority in the educational strategy which was not the case even at the beginning of the 2000 (2003, HEFCE, p 2).

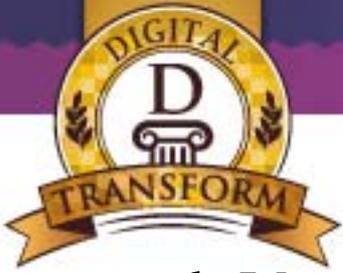
Open University	JISC	HEA
Open in 1971, this university launches distance education with great success. The university aims at opening higher education to the greater number by suppressing level or degree requirements on admission. As other distance institutions, it proposes, at an early stage, the use of ICT and includes digital education at the heart of its strategy. It is the only institution with a national coverage.	The JISC is amongst the rare world organisations in charge of coordinating the adoption and development of ICT in higher education. Officially created in 1993, its objective is to mutualise transformation experiences, and to advise and fund university projects. Thanks to the JISC British universities rely on a real expertise facility.	This organisation was created by the conference of university presidents UK and focuses on the quality of higher education. The HEA fulfils an advisory and leading role for digital education projects in close links with JISC, which allowed them to gain prestige at international level in terms of educational transformation.

At the same time, the various governments in the United Kingdom agree on two strategic points : the need to include ICT in higher education in a sustainable way, the priority given to universities individual initiatives (Hefce 2003 and 2005 ; Gales 2002). Specialised institutions are encouraged to have tailor made approaches for the different universities<sup>44</sup>. A lot of very diverse projects materialise at that time. All e-education fields are explored.

Three projects are particularly notable in the national British EICT landscape:

<sup>44</sup> A few examples : in Scotland, in 2005, the SFC donates 6 M Pounds to JISC to produce innovating educational material (NOTE 54) ; in Wales, HEFCW gives another 1 M Pounds to JISC and HEA (strategy Gales 2007).





### **1. E-Learning Benchmarking and Pathfinder Programme (2005-2008)**

Implemented by HEA and the JISC, the Benchmarking programme aims at systematically collecting universities needs in terms of EICT. Funded with 8 million pounds, the programme concerns 77 institutions in the country. Its development allows for an advertisement of e-education transformation potential in higher education. In its second phase, the « pathfinder » stage, 37 universities are accompanied to define their own strategy, especially in terms of educational innovation in correlation with digital technology. Above all, beyond collecting data and accompany universities, the strength of the programme is to include ICT in universities agendas.

### **2. UKOER (2008-2012)**

In line with a series of projects in favour of OER<sup>45</sup>, the JISC and the HEA are in charge of broadening the use of OER in higher education. With 16 million Pounds, the project tends to (1) define the best way to disseminate OER, (2) question the way to encourage institutions to produce them and (3) try and establish a link between OER and the society economic environment. At the end of the project the teachers' capacity to use ICT was put into question. (RESULTS OKOER, 2012).

### **3. FutureLearn (2013)**

Developed by the Open University, FutureLearn is the British platform for the spreading of MOOC. In line with the institution's open education (OpenLearn), the platform manages to attract 72 partners in 2015 and allows for the development of MOOC in many institutions which allows for the display of United Kingdom as the most active MOOC producer country in Europe.

In spite of a few positive results in the field of EICT development in universities, the JISC as well as the HEA are dropped by the English government starting its advocacy in favour of universities autonomy again. From the first strategic report (HEFCE 2009) to the more recent (HEFCE 2011, HEFCE 2014), the shift is patent

---

<sup>45</sup> Exchange for Learning (X4L) (between 2002 and 2006), focused on the creation of reusable educational resources. Under this programme JorumOpen was created, it gives free access to educational materials produced by the higher education institutions and technically facilitates their production and management ) /RePRODUCE, between 2008 and 2009, focused on re use and new adaptation of digital university contents. The programme facilitates the resources transfer between institutions/2 programmes giving a technical infrastructure in the sector of higher education to open resources , or for resources deposition (« Digital Repositories », 2005-2007) and preservation programmes (« Repositories Preservation », 2006-2009).





confirming the conclusions of a working team on on-line education (*Online Learning Task Force*). Digital education is no longer on the State agenda, preference is given to infrastructures (2010 UK HEFCE, p. 2). Consequently, the British government continues to lower JISC financing and, through a vote in 2017, universities contribution to JISC ceases to be compulsory (Book JISC 2014).

Wales and Scotland do not follow the same line, they see in the actions implemented by JISC, HEA and the Open University, a considerable university transformation support (strategy Wales 2014; Learners at the center Scotland, 2011) and carry on encouraging these institutions. For instance, in 2014, Scotland donated 1,3 million pounds to the Open University for the development of OER throughout the country (report OEPS 2015).

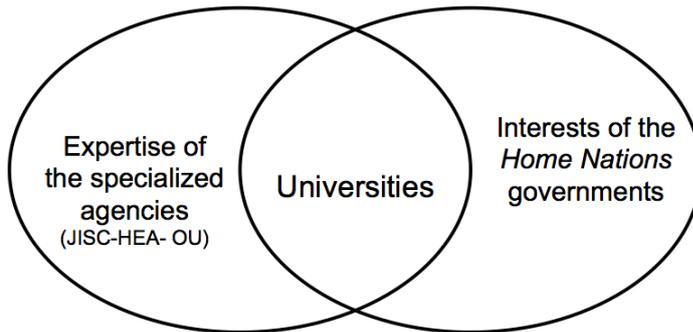
JISC economic model partly explains this divergence. England is the country contributing the most to the JISC financing (around 50%) and the « return on investment » impacting English universities is far from unanimous. Thus the conclusion of the JISC evaluation in 2011, states JISC's great potential but also its incapacity to meet with all universities demands (2011, evaluation JISC). For the English government, the reference model truly consists in supporting each institution action without referring to a specific expert organisation .

For the JISC and the HEA, this position is not convincing (book JISC 2014 ; academy evaluation on hefce, 2014) as it does not solve the great issue of how to transform institutions' teaching mission through ICT. Is the « great revolution of higher education » possible? (Academy evaluation on HEFCE 2014p.16). Under certain conditions, answer expert organisations putting the emphasis on the complex educational phenomenon.





*Institutional ecosystem of university digital transformation in the United Kingdom*



As a conclusion, the study of the EICT situation in British universities puts several phenomena into perspective: British EICT university policy has known various reversals within the last twenty years; there is no total agreement between English , Scottish and Welsh governments ; specialised organisations have known a weakening lately, even if they remain references ; for the sake of autonomy, the English government wishes to transfer the question of university education to institution level so that it ceases to be a State preoccupation .





A few examples of public policies and programmes in favour of digital education in the

United Kingdom

	ICT equipment policies	Universities management computer policies	Digital education policies with		Digital training policies
			Educational resources production	Educational devices development	
JANET 1984	University national data sharing network.				
Ufi 1998-2009				ICT based professional training creation.	
UKeU 2000-2004				On line distance education creation.	
JISC-HEA: <i>Benchmarking &amp; Pathfinder</i> 2005-2008		Advise and implement e-learning institutional strategies.			
OU: <i>OpenLearn</i> 2006			Incentive to produce and share OER.		
JISC-HEA: <i>UKOER</i> 2009-2012			Incentive to produce OER.	Incentive to include OER in educational process.	
England : <i>Changing the Learning Landscape</i> 2012-2014		Advising Programme for the conception of a digital strategy specific for each institution.			
Northern Ireland: <i>E-learning awards</i> 2012			Incentivise and support the use of ICT in education.		
Or: <i>FutureLearn</i> 2013			National Platform for the dissemination of MOOC.		
Scotland: <i>Opening Educational Practices in Scotland</i> 2014			Improve the dissemination of OER in Scotland.		





## GENERAL CONCLUSION

The D-Transform project aims at helping the heads of European universities reconsider their institutional transformation strategy thanks to digital technology. It stated, as an underlying principle, that it is indispensable to achieve a comparative analysis of long term public policies and not to lurch back in the routine of a "digital ready to wear" so often seen in this type of project. The exercise demanded an important work of data collection (always worth updating) and showed the importance of institutional environments where these strategies must take place.

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. Whilst 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 configuration of the different actors 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...). The priority sectors are also different as are the strategies of institutional transformation.

To succeed, a project such as D-Transform must build a device to help the transformation of university teaching taking into account the observed facts. If it seems inappropriate to think of a "leadership school" gathering the heads of universities from





the different countries concerned, a "communal culture" can be shared by everyone and debated on a short term basis (one day). It should be completed by "leaderships schools" specifically organised in each country. These leadership schools would take into account a certain number of elements:

- For France, it would be suitable to bring together 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. Inter-institutional dialogue should be favoured .
- For Italy, 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, it is indispensable to join together 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.

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), developed in the following part, should allow us to identify, country by country, the form of economic model and the major lines of this digital teaching.





## BIBLIOGRAPHY

AGASISTI Tommaso (2014) « The efficiency of Public Spendig on Education : an empirical comparison on EU countries ». European Journal of Eduction Vol 49, No 4.

BATES Tony (2001). National strategies for e-learning in post-secondary education and training. Aris : UNESCO.

BACSICH Paul (2011), Impact of e-learning in the 21st century university.

BULMER, S. and RADELLI C.M (2004) 'The Europeanisation of public policy' in C. Lequesne and S. Bulmer (Eds.) Members States and the European Union, Oxford, Oxford University Press.

ELUE (2006) Les universités européennes à l'heure du e-learning. Regards sur la Finlande, l'Italie et la France. Paris :CRUI.

EURYDICE (2001) Tic @Europe.edu, Bruxelles : Eurydice.

HELMEID E. & VINCENT-LANCRIN (2015, forthcoming), The future of a quiet revolution. E-learning in tertiary education, Paris : OCDE.

MULLER Pierre et RAVINET Pauline (2008) Construire l'Europe en résistant à l'UE ? Le cas du processus de Bologne. Revue Internationale de Politique Comparée. Vol 15 N° 4.

MUSSELIN Christine (2009) Les réformes des universités en Europe : Des orientations comparables, mais des déclinaisons nationales. Revue du MAUSS 2009/1, N° 33.

NARDIN Rozenn (2005) La qualité des dispositifs d'universités virtuelles : du référentiel de bonnes pratiques à la normalisation de la qualité. Saint-Cloud : Institut universitaire professionnel métiers des Arts et de la Culture.

OECD (1996) The knowledge economy.

OECD (2000) La littératie à l'ère de l'information.

OECD (2001) E-learning. The partnership challenge.

OECD (2005) E-learning in tertiary education.





OECD (2007) Giving Knowledge for free. The emergence of Open Educational Resources,

OECD (2015). E-learning in higher education in Latin America.

RADAELLI Claudio (2004), « Europeanisation : Solution or problem ? », European Integration online Papers (EIoP), Vol 8, N°16.

SHALE Doug (1987) Innovation in International Higher Education : The Open Universities. Journal of Distance Education, vol 2 N° 1.

THIBAUT Françoise (2002) De l'université virtuelle au campus numérique : simple effet de traduction ou changement de paradigme (manuscrit).

UNESCO (1997) Open and Distance Learning. Prospects and policy Considerations.

UNESCO (2001) Universités virtuelles contre universités classiques : conflit ou collaboration ? Revue Enseignement supérieur en Europe, vol XXVI, N° 4.

UNESCO (2002) Forum on the Impact of Open Courseware for Higher Education in Developing Countries.

UNESCO (2002) Open and Distance learning. Trends, Policy and Strategy considerations.

UNESCO (2005). Internet Discussion Forum. Open Educational Resources. Open content for Higher Education.

UNESCO (2011) A Basic Guide to OER.

UNESCO (2012) World Open Educational Resources Congress. « 2012 Paris OER Declaration ».

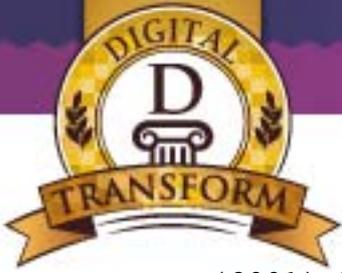
## About Europe

BACSICH Paul et alii (2015). Adult education and open educational resources. European Parliament.

Commission Européenne :

COM (2000) 318 Final. Communication de la commission. E-learning Penser l'éducation de demain.





COM (2001) 172 final. Plan d'action eLearning. Penser l'éducation de demain.

COM (2005) 152 final. Reforme des Universités dans le cadre de la stratégie de Lisbonne.

COM (2005) 229 final. « i2010- Une société de l'information pour la croissance et l'emploi.

COM (2005) 24 final. Un nouvel élan pour la stratégie de Lisbonne.

COM (2008) 513 final. Accès en ligne au patrimoine culturel de l'Europe.

COM (2009) 0159 final. Rapport final sur la mise en œuvre et l'impact de la deuxième phase (2000-2006) des programmes d'action communautaire en matière d'éducation (Socrates) et de formation professionnelle (Leonardo da Vinci) et du programme pluriannuel (2004-2006) pour l'intégration efficace des technologies de l'information et de la communication (TIC) dans les systèmes d'éducation et de formation en Europe (Apprendre en ligne).

COM (2009) 0390 final. Rapport sur la compétitivité numérique de l'Europe : principaux résultats de la stratégie « i2010 » entre 2005 et 2009.

COM (2012) 669 final. Repenser l'éducation- Investir dans les compétences pour les meilleurs résultats socioéconomiques.

COM (2013) 499 final. L'enseignement supérieur européen dans le monde.

COM (2013) 654 final. Ouvrir l'éducation : les nouvelles technologies et les ressources éducatives libres comme sources innovantes d'enseignement et d'apprentissage pour tous.

Commission des communautés européennes (1993), Croissance, compétitivité, emploi. Les défis et les pistes pour entrer dans le XXIe siècle, Luxembourg: office des publications officielles des Communautés européennes.

Commission Européenne (2010) Europe 2020. A European strategy for smart, sustainable and inclusive growth.

Conseil européen de Barcelone (2002) Programme de travail sur le suivi des objectifs des systèmes d'éducation et de formation en Europe. Journal officiel C 142 du 14.06.2002.





Conseil européen et Parlement européen (2006). Décision n° 1720/2006/CE. Programme pour l'éducation et la formation tout au long de la vie 2007-2013.

EUA (2014) E-learning in european higher education institutions. Results of a mapping survey conducted in 2013.

EUROPE (2000). Conseil Européen Lisbonne 23 et 24 mars 200. Conclusions de la présidence.

PLS Ramboll (2004) Studies in the context of the e-learning initiative : Virtual Models of European Universities.

VEDEL Thierry (1997) Les politiques des autoroutes de l'information en Europe : convergences et écologies de jeux. Politiques et Management public 15 (1).

## About France

BESSON Eric (2008) France numérique 2012, Paris : Premier ministre.

BOYER Anne (2011) Les Universités numériques thématiques : bilan, Revue Sticef.org, Vol 18.

CPU & Caisse des dépôts (2009) Guide méthodologique de l'université numérique, Paris : CPU & Caisse des dépôts.

DECEUNINCK Julien (2007) Les campus numériques en France : réalisations, dynamiques et émergences, Etudes de la communication.

ISAAC Henri (2008) L'université numérique, Rapport à Mme V. Péresse, Ministre de l'enseignement Supérieur et de la Recherche.

MENESR (2015) Campus d'avenir. Paris : MENESR.

MENESR (2015), Repères et références statistiques 2015, Paris : Direction de l'évaluation, de la prospective et de la performance.

MILADI Sana (2006), Les Campus numériques : le paradoxe de l'innovation par les TIC. Distances et Savoirs, 4/2006.

MUSSELIN Christine (2001). La longue marche des universités françaises. Paris : PUF.

THIBAUT Françoise (2006) Autour des Campus Numérique français : repères dans les initiatives du ministère en charge de l'enseignement supérieur, Distances et savoirs, 4/2006.





THIBAUT Françoise (2007) Campus numérique : archéologie d'une initiative ministérielle, Etudes de communication, 2007.

THIBAUT Françoise (2007) Enjeux de l'enseignement à distance pour l'université française, 1947-2004, Ph.D à Université Paris-Nord Paris XIII.

THIBAUT Françoise (2008). Politiques publiques et TICE : ne circuler pas, il y a à voir. Grenoble : Ecole d'été du GRESEC.

## About Italy

DE ROSA Rosana & ZUCCARINI Monica (2011) Federica : la via italiana alle risorse educative aperte, TD Tecnologia didattica, vol 19 n° 2.

FEDERICI Giorgio & RAGONE Giovanni (2008) università e apprendimento permanente : politiche e azioni di sistema, Journal of e-Learning and knowledge society, vol 4 n° 1.

Governo Italiano (2002), Comitato dei ministri per la società dell'informazione, Riunione del 13 febbraio 2002.

MIT- Ministro per l'innovazione e le tecnologie (2006) La Riforma Digitale per innovare l'Italia, Roma.

MIUR (1999) Décret N° 509 du 3 novembre 1999 sur les « règlements relatifs à l'autonomie éducative des universités, publié dans la Gazzetta Ufficiale N° 2 du 4 juin 2000. Disponible sur:

MIUR (2009) Linee guida Università digitale 2012. Roma : ICT4University.

MIUR (2013) Commissione di studio sulle problematiche afferenti alle Università telematiche istituita con DM 429 del 3 giugno 2013.

MIUR (2015) Focus « Gli immatricolati nell'anno accademico 2014/2015 », Roma : Servizio Statistico MIUR.

Presidenza del Consiglio dei Ministri (2014) Strategia italiana per la banda ultralarga, Roma : presidenza dl Consiglio dei Ministri.

RAGONE Giovanni (2008) Per l'e-learning nelle università italiane, Rivista Scuolaiad.it

RITA ALFONSI Cristiana & CASCIOTTI Carla (coord.) (2003), CampusOne. Nuova università e mondo del lavoro, Roma : CRUI.





RITA ALFONSI Cristiana, CARFAGNA Massimo, PEDRESCHI Dino (coord)  
(2004), CampusOne. E-università : facciamo il punto, Roma : CRUI.

## About Spain

BARRO AMENEIRO Senén (coord) (2004) Las tecnologías de la información y las comunicaciones en el sistema universitario español, Madrid : CRUE.

BARRO AMENEIRO Senén & BURILLO LOPEZ Pedro (coord) (2006).  
UNIVERSITIC 2006. Las TIC en el sistema universitario español,  
Madrid : CRUE.

BARRO AMENEIRO Senén & UCEDA ANTOLIN Javier (coord) (2007)  
UNIVERSITIC 2007. Las TIC en el sistema universitario español,  
Madrid : CRUE.

BARRO AMENEIRO Senén & UCEDA ANTOLIN Javier (coord) (2008)  
UNIVERSITIC 2008. Las TIC en el sistema universitario español,  
Madrid : CRUE.

BARRO AMENEIRO Senén & UCEDA ANTOLIN Javier (coord) (2009)  
UNIVERSITIC 2009. Las TIC en el sistema universitario español,  
Madrid : CRUE.

BARRO AMENEIRO Senén & UCEDA ANTOLIN Javier (coord) (2010)  
UNIVERSITIC 2010. Evolución de las TIC en el sistema universitario  
español 2006-2010, Madrid : CRUE.

BOE (2015) Real decreto 420/2015 de 29 mayo de creación,  
reconocimiento autorización y acreditación de universidades y  
centros universitarios.

BRICALL Josep (coord.) (2000), Universidad 2000, Barcelona : CRUE.

GARCIA ARETIO Lorenzo, (2006) La Universidad Nacional de Educación a  
Distancia de España, Revista Iberoamericana de Educación a  
Distancia, Vol 9 N° 1 y 2 (Loja, Ecuador).

Gobierno de España (2015), Informe Anual de la Agenda digital para  
España, Madrid : Gobierno de España

MECD (2015), Datos y Cifras del sistema universitario español. Curso  
2014/2015. Madrid :Secretaría general de documentación y  
publicaciones.





Ministerio de Educación y Ciencia (1985) Proyecto IRIS, Madrid : Subdirección General de organización y automatización.

Ministerio de Industria, Turismo y Comercio (2010), Plan Avanza, Madrid : MITC.

PEROTTI Loris (2007), Institutional Change in the Spanish Higher Education system, European Journal of Education, Vol 42, N° 3.

PIRIZ DURAN Segundo (coord) (2013) UNIVERSITIC 2013. Situación actual de las TIC en las universidades españolas, Madrid : CRUE.

PIRIZ DURAN Segundo (coord) (2014) UNIVERSITIC 2014. Descripción, gestión y gobierno de las TI en el sistema universitario español, Madrid : CRUE.

SAGRA Albert (2008), The Integration of information and Communication Technologies in the University : Models, Problems and Challenges (English summary), Unpublished Ph.D at Universitat Rovira i Virigili, Tarragona, Spain.

SANGRA Albert (2006) « Universitat Oberta de Catalunya, Spain », in D'ANTONI Susan, The Virtual University, Paris :UNESCO.

UCEDA ANTOLIN Javier (coord) (2011) UNIVERSITIC 2011. Descripción, gestión y gobierno de las TI en el sistema universitario español, Madrid : CRUE.

UCEDA ANTOLIN Javier & PIRIZ DURAN Segundo (coord) (2012) UNIVERSITIC 2012. Descripción, gestión y gobierno de las TI en el sistema universitario español, Madrid : CRUE.

## About the United Kingdom

BACSHICH Paul (2009) Benchmarking e-learning in the UK universities : Lessons from and for the international context.

BRADWELL Peter (2009) The edgeless university. Why higher education must embrace technology. London : Demos.

CHABERT Catherine (2006) L'université virtuelle britannique. Distances et Savoirs, 4/2006, Campus numériques.

DEARING (1997) Higher Education in the learning society. London : Her majesty's Stationery Office.





HARROW Martyn (2014) JISC : a hidden advantage for higher education. London. Hepi.

HEA (2014) The role of HEFCE in teaching and learning enhancement : a review of evaluative evidence.

HEFCE (2003) Consultation on HEFCE e-learning strategy

HEFCE (2005) HEFCE strategy for e-learning.

HEFCE (2009) Enhancing Learning and teaching through the use of technology

HEFCE (2010) Study of UK Online Learning . Report to HEFCE by the Department for Continuing Education. University of Oxford.

HEFCE (2011a) Opportunity, choice and excellence in higher education.

HEFCE (2011b) Review of the Joint Information Systems Committee.

HEFCE (2014) Changing the learning landscape. Connect to the future. Final report.

HEFCW (2008) Enhancing Learning and Teaching through technology : a strategy for Higher Education in Wales.

HEFCW (2011). Enhancing learning and Teaching through Technology : refreshing the strategy.

HEFCW (2014). Revised Enhancing Learning and Teaching through Technology strategy.

House of Commons (2005) UK e-University. London : The Stationery Office Limited.

House of Commons (2006) Extending access to learning through technology : Ufi and the learndirect service. London : The Stationery Office Limited

JISC (2012) Into the Wild. Reflections on three years of the UK OER programmes.

JISC-HEA (2008) Challenges and realisations from the HEA/JISC Benchmarking and Pathfinder programme.

OEPS- Opening Educational Practices in Scotland (2015). OEPS project report : march 2015





OLTF- Online learning task force (2011) Collaborate to Compete

Online Digital Learning Working Group (2014). Open & online : Wales higher education and emerging models of learning.

SCOTLAND- The Scottish Government (2011) Putting Learners at the Centre. Delivering our Ambitions for post-16 education. Edinburgh.

WALES (2002) Higher Education and the Learning Country. A strategy for the higher education sector in Wales.

WALES- The National Assembly (2001) The Learning Country.

