



A Case for a Networked University. Opportunities and Challenges

Luce Jacovella

Queen Mary University and Westfield College, University of London (UK)

Dr.Jacovella@gmail.com

Abstract

There is an historical convergence linking together phenomena such as globalisation of the economy and trade, International and European legislation, the movement of people, the developments in communication and learning technologies and the demand for a flexible, accessible and relevant education which resembles some of the conditions occurred during the formation of Medieval universities. This paper presents a case for an international networked Higher Education (HE) system. Looking at the history of university's formation, it draws a comparison with the present to illustrate a possible scenario for the future of HE learning.

Globalisation, leading to the internationalization of university services, the use of English as 'lingua franca' and the movement of workers across the globe bring the demands for HE to a new level. On the international arena, the inclusion of education within the WTO GATS Agreement and the TRIPs Agreement, the provisions for the free movement of people within the EU of the Lisbon Treaty and regional soft laws such as the Bologna Declaration [1], offer valuable instruments that combined together could facilitate the development of collaboration between centres of research and education across borders, institutional and legal divide. In addition, Information and Communication Technologies (ICT) based on web 2.0 and web 3.0 facilitate communication and collaboration and make even learning easier, essentially unbounded by physical space and time.

While increasing population and globalization have produced conflicting demands for a flexible, highly specialised workforce, constantly chasing new abilities to keep up with the market demands, the high costs of innovation and education risk creating a two tier society divided among those who know and will continue to know even more and those who are left out, a form of information feudalism [2] which could undermine European's prosperity. This suggests a re-thinking of the educational services to take advantage of the opportunities generated by advances in technology, globalisation [3] and international agreements. Unlike the radical changes occurring in society, European universities have not gone through a substantial reform [4] and risk losing relevance.

University needs to adapt to the world in which younger generations have a critical role to play and are called to take positions of leadership[5]. Starting from historical examples of university formation and intersecting with constructivist approaches to learning, this paper intends to demonstrate that there are conditions for an alternative model of higher education based on student-lead modular curricula within an international[6] multi-site, multi-media networked structure for the delivery of tertiary education.

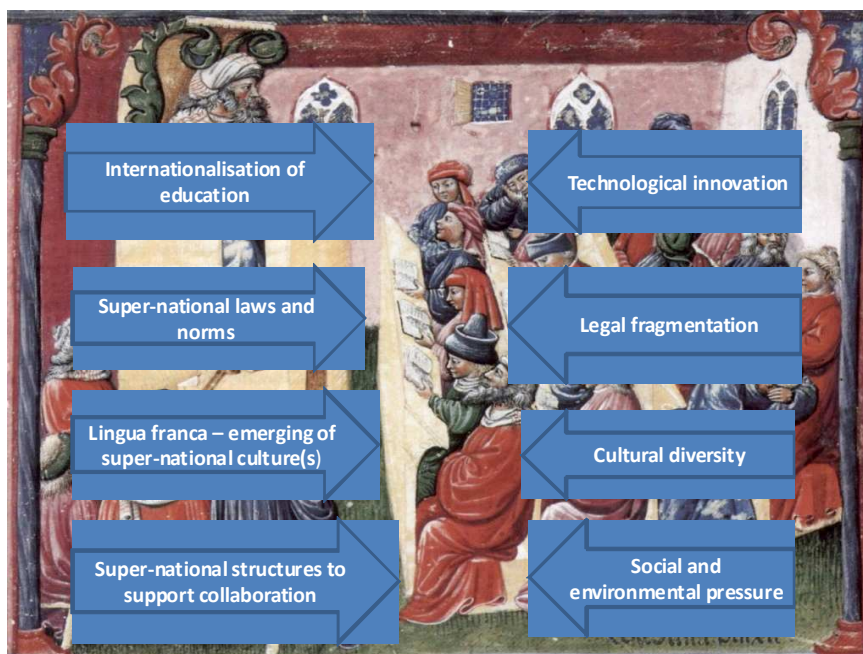
1. Introduction – Old Universities, new world

The dominant model of university operating at global level today, reflects the organisational structure, the segregation of academic topics and work dynamics produced by the industrial revolution and post-industrial society. The university of the modern era, however, has developed from Medieval times as a corporative model through the union of students and teachers. The university had the purpose of protecting the independence and quality of knowledge imparted and those pursuing it, from the intrusion of the Church, princes and townsmen. Even during the Middle Ages, the university's claim of independence was a matter of negotiation, as universities were never truly separated from society although often at cross purposes [7-10].

The political fragmentation of Europe, the exclusivity of the ecclesiastical education, the improvement of a bourgeois and merchantile class demanding higher education lead to privilege a corporative organisation of learners around schools and teachers. Since Pope Gregory IX granted teachers the *ius ubique docendi* or the right to teach anywhere, it become custom to recognise titles from different countries fostering an international university system. Individual teachers attracted students from all over Europe while students pursued learning across borders. Students were often following their teachers in their itinerant journey foreigners and moved from town to town (*peregrinatio academica*) in the pursuit of knowledge. The university, though, "arose, uniquely, in medieval Europe at a special



time and for a special reason – the growing need to expand the scope of higher education to meet the demands of an increasingly literate, prosperous, urbanising society, and the need of students to organise themselves to prevent exploitation by townsmen¹. The teacher-student or mentor-disciple relationship was at the core of the academic system, going beyond the transfer of knowledge to embrace all aspects of life. Despite the criticism to which University has been subject to since its early formation and the attacks to its independence, it has evolved and endured until now through Medieval times, the Renaissance and the Reformation times, the industrial and the post-industrial era. Some of the problems of HE today have similarities with the problems faced by Medieval universities. For example:



- legal fragmentation, as Europe was atomised to a myriad of small states with local rules and forms of government which made travelling and living across border equally complicated. Although the European Union has made enormous progress with the Treaty of Lisbon 2007, still education is mainly regulated by national laws and legal fragmentation is still hampering the creation of an European Research (ERA) and Higher Education Area (EHEA).
- The pressure from natural and manmade disasters, e.g. conflicts and pestilences which could be associated to current

- economic and environmental problems which impacted on demography and movement of people.
- The social and political fragmentation which resulted in the imposition of Latin as the lingua franca in order to permit the sharing of knowledge by people from different countries.
 - New scientific discoveries and technologies developed by the Arabs which threatened the supremacy of the Church, and later, the emergence of print media which can be compared to today's information and communication revolution.

Many advocate a return to university's original mission and there are many proposals for reform based on the same principles of mentor-disciple relationship, student's independent choice of learning, independent teaching, *ad hoc* courses and collaborations facilitated by ICT technologies, learning and ubiquitous internet technologies and resting on constructivist pedagogical approaches supporting the unique capacities and aspirations of the learner. This can only happen by further strengthening institutional collaborations and exchanges.

Universities already collaborate internationally through research collaborations, partnerships and exchanges at various level. Whatever the form of collaboration they imply: 1) the mobility of people (students, teachers, researchers, professional staff); 2) the mobility of institutions (opening of university's branches abroad) [11], both requiring a degree of institutional collaboration that can be aided or hindered by external factors:

- the regulatory framework, supporting mechanisms which facilitate exchanges, academic independence and knowledge dissemination, mutual recognition, relevant appreciation of academic achievements or on the contrary, increase fragmentation, cross-national barriers and state control

¹ Hunt Janin, 1940. The University in Medieval Life 1179-1499. McFarland, 2008, p.25.



- Economic factors such as a thriving or decreasing economy, movement of capitals, incentives for mobility or restrictions, direct and indirect economic gains, open markets
- Contextual factors, such as new or disruptive technology that changes people's interactions (e.g. facilitating travels and communication), demographic fluctuations, individual factors (e.g. role of knowledge intermediaries, teacher open to new forms of education), cultural such as the valorisation of competence within a community.

With the diffusion of communication technologies, it is not unlikely that the level of collaboration will increase and perhaps support the emergence of an international, modular, IT-based structures that go beyond the people/institution movement model. A networked university, in fact, could be partially or entirely based on virtual communication, making the regulatory framework essential for its governance. A model aided by an opening of the economy, the valorisation of differences and individualities, and an enhanced role of communities. "Whereas industrialization required people to settle in one place to perform a very specific role or function, the jobs associated with knowledge and information workers have become much less specific concerning task and place". A networked HE would be trans-national, trans-cultural and adaptable.

The regulatory framework between international goodwill and national fragmentation

There are diverging opinions on the impact of the current international legal and regulatory regimes in fostering or hindering international collaboration.

The WTO General Agreement on Trade Services (GATS) 1995 treats education as a service² leaving individual countries to choose the mode for opening to external competitors [14]. Together with TRIPs Agreement which deals with trade related aspects of intellectual property, including research resulting from collaboration, teaching material and software, GATS has often been criticised for treating education as a commodity instead of a right.³ Indeed, national countries can choose between four modes of implementation, implying different degrees of opening to international operators. At European level, the EU Treaty creates the conditions for the mobility of people, including students, staff and teachers. In particular, Article 149 EC Treaty encourages the cooperation of Member States for the development of a European dimension for education. By reaffirming the subsidiary principles and only setting incentives for the harmonization of laws, it leaves the action to the individual Member States. It is the creation of a single market, however, the free movement of workers and the right to an education on equal terms of nationals that might provide the stronger incentive to the comparability of professional qualifications and skills⁴. Despite strategic objectives for employment, innovation, education, social inclusion to be reached by 2020, the Lisbon Strategy still leaves the implementation to the individual initiatives to national countries. More specifically, the Copenhagen process, established in 2002, lays out the basis for cooperation in vocational education and training (VET)⁵ between thirty-three European countries and includes collaborative programmes such as the Leonardo Programme⁶ [12].

The Bologna process aims at the harmonisation of European Higher Education to help employers and individuals in comparing qualifications across the EU's diverse education and training systems. It is based on learned skills and abilities, rather than where the learning took place and how long it took. The mixed success of this initiative is symptomatic of the dynamics and dichotomies that surround education and Europe. From the one hand the recognition of the need for harmonisation, on the other the traditional national control over education and the legitimate valorisation of diversity as a common European heritage. It also shows the tensions between hard laws and regulation and soft laws and it exposes the limitations of the current tools for evaluating education and competences⁷. It is not surprising, that the Open Method of Coordination (OMC), a framework that allows member states on voluntary basis on the development of indicators, best practices and cooperation, is often preferred to deal with sensitive matters such education. Also research collaborations are effective tools for creating

³ Education is mentioned in the Preamble of the Universal Declaration of Human Rights and in art. 2 of the European Convention on Human Rights

⁴ See Articles 40, 47 and 55 EC Treaty

⁵ http://ec.europa.eu/education/lifelong-learning-policy/framework_en.htm

⁷ See PISA for the evaluation of education world wide. <http://www.oecd.org/pisa/>



favorable conditions for educational networks⁸. Perhaps examples of mutual recognition between academic titles could expand towards the creation of ad hoc modular degrees where subjects are learned by participating in local and remote classes from teachers directly chosen by the students and for curricula which can be adapted to remain relevant to the learner [13].

The economic and demographic factors

The economic crisis has contributed to the escalation of the cost for higher education and clashes with the growing demand for specialized knowledge. The success of Massive Open Online Courses (MOOC) indicates that the demand for mass education has not slowed down. MOOC open new possibilities for universities⁹ and it is symptomatic of a shift towards a more flexible learning. Some universities, especially those offering programmes in English have online teaching services¹⁰. Over 77% of students worldwide who study abroad do so in OECD countries with the majority of students coming from China, India and Korea (52% of students studying abroad)¹¹.

Universities often collaborate through student and teachers exchange programmes, opening university branches or offering ad hoc courses such as master degrees. Perhaps even more substantial is the range of international research collaboration that opens the way to the exchange of knowledge and personnel. Distance learning in the form of eLearning, MOOC or mLearning is also a growing phenomenon with major implications for international students' mobility which could choose to move abroad only to complete their studies with master classes, training or exclusive mentoring programmes. All forms of collaborations often undertake similar challenges, in terms of institutional accreditation, taxation, mutual recognition, evaluation and monitoring. With the movement towards a multi-power, multi-cultural, globally orientated world, countries such as China and India might start attracting more foreign students and teachers and thereby expand the range of services offered including distance learning.

The Western university model might find a way to opening up to international competition or remain as a niche of costly, exclusive learning institutions. A modular network of centres of learning might offer an alternative including on-line or mobile learning coupled with traditional face-to-face master classes.

The contextual factors

Technologies have already demonstrated a potential for education and to foster collaboration free from space and time constraints. Technologies, however, are not static and it is difficult to predict how further they will impact the fabric of our society few years ahead. It is not unlikely that mobile technologies will provide an alternative to the traditional classroom, with learning technologies tailored to ubiquitous and mobile devices. Networks of students and teachers could learn together and share their experience in less formal structures. With ubiquitous internet technology, it is now possible to imagine the entire world as university, with structured and contextualized information available at the fingertip, with a growing role of communities interacting with individuals and among them as nodes in a network. In this case, both the tendencies towards globalization (of people, services, economy) and localisation, including a reevaluation of national, ethnic and community cultures could find a flexible and modular expression. The most important feature of a networked modular university is the relevance to the life and context in which the learner lives and operates. So, every experience, every interaction with teachers, communities and peers becomes part of the learning process.

Globalisation is irreversible, but it slowing down while industrial innovation, except for ICT, has reduced its impact on everyday's life¹². The result is a multi-power geo-political scenario where the real innovation is the people's capacity to collectively solve common problems. New powers are seeking their place as cultural nations and fighting for cultural dominance. Even countries such as China and India, the main 'exporters' of students, are unlikely to leave this trend unchallenged. Globalisation has produced a flourishing of supra-national cultures, some closely connected with mainstream cultures, other peripheral, but nonetheless relevant for contributing to the advancement of

⁸ See also Horizon 2020, The European Research Area (ERA) and the European Higher Education Area (EHEA), the European UNESCO Recognition Convention 1997

⁹ Data worldpress.com

¹⁰ Robin Sakamoto, p.5

¹¹ OECD Education at Glance 2011

¹² <http://www.economist.com/news/briefing/21569381-idea-innovation-and-new-technology-have-stopped-driving-growth-getting-increasing>



society. A networked university could create new synergies and dynamics while strengthening the unique characteristics of each node.

The decline of the overall number of students in Europe (OECD data 2012) follows the decline in the youth population. European Universities cannot simply count on foreign students without thinking of reaching them in their country of origin, in their community of reference. The internationalization of universities is a costly financial and administrative exercise while the modular network of institutions and centres of learning could help universities adapting to economic and demographic fluctuations, remain relevant to their territory and at the same time, open to the rest of the world. Instead of replicating a Western cultural model we can join in the global cultural wealth..

Work dynamics, relationships, societal structures are changing. We cannot assume that the organization of work and professions will not be affected. These changes are slowly reflected in the increasing role of knowledge intermediaries, technology transfer officers, project managers, research facilitators, librarians and marketing directors played within the university's organisation. The division of competences between academic and professional services which is still fiercely enforced by traditional universities will be gradually blurred with professionals performing multiple roles and positions.

Conclusion - Imagining future possibilities

A wide spread model for networked university could not function without a lingua franca that allows people from different nationalities to understand each other. Although Chinese is the most spoken native language in the world, like Latin was in the medieval period, English still remains the language of the academia. The cultural implications of having a Western lingua franca, it is likely to carry with it some of the connotations of western models of university. Language, however, is not simply spoken language. New communication paradigms need to be created to embrace the visual and full spectrum of sensory experiences in full immersive experiences.

The real challenge however, will be to maintain university learning relevant to students' life. For this reason, it necessary to evaluate achievements and university's performance on a different set of values. The PISA approach goes in the right direction, but far more is needed to link formal and informal learning with real life learning's expectations. Higher Education should be regarded as the highest pursue of learning and remain relevant for the development of the individual and her contribution to society. With rapid economic and technological changes, university will have to cope with many demands and at the same time, appeal to individual students. Perhaps new student-centered pedagogical models will help move from e-learning to m-learning and then to i-learning, to mediate different trends and respond to mass demand for education, to the values of sub-cultures supported by virtual communities, the personalization of education. A half-day working/studying advocated by T. Makiguchi since the publication of the System for Value-Creating Pedagogy (Soka koyoikugaku taikei) in 1930.

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