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THE UNIVERSITY OF THE 21ST CENTURY, BETWEEN TRADITION AND INNOVATION

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1. The University of the 21st Century: between stasis and renaissance

The university in the globalized and interconnected knowledge society reached an important turning point: we are at a crossroads between stasis and renovation, atrophy and renaissance. Traditional universities should be able to reinvent themselves and come out of atrophy. Their transformation is no longer an option, but it is more than ever an unavoidable imperative.

There is an ongoing massive generational clash within our universities; the criticisms at the university system emerged within the end of the '80s and the '90s can be defined as the "waiting ideas": waiting for the new Web implementation and a new generation of students, so called digital natives, able to effectively call into question the old system.

Mark Taylor, from Columbia University, raised an harsh academic debate, publishing on the 26th April 2009, on the New York Times, a challenging article entitled "End the University as We Know It". "Graduate education – as his article started - is the Detroit of higher learning. Most graduate programs in American universities produce a product for which there is no market (candidates for teaching positions that do not exist) and develop skills for which there is diminishing demand (research in subfields within subfields and publication in journals read by no one other than a few like-minded colleagues), all at a rapidly rising cost (sometimes well over $100,000 in student loans)".

There are countries in which access to tertiary education is almost impossible. Daphne Koller, teacher at the Stanford University, in a videoconference on TED in August 2012, entitled "What we are Learning from Online Education" stated: "In South Africa, the educational system was constructed in the days of apartheid for the white minority. And as a consequence, today there is just not enough spots for the many more people who want and deserve a high quality education. That scarcity led to a crisis in January of this year at the University of Johannesburg. There were a handful of positions left open from the standard admissions process, and the night before they were supposed to open that for registration, thousands of people lined up outside the gate in a line a mile long, hoping to be first in line to get one of those positions. When the gates opened, there was a stampede, and 20 people were injured and one woman died. She was a mother who gave her life trying to get her son a chance at a better life".
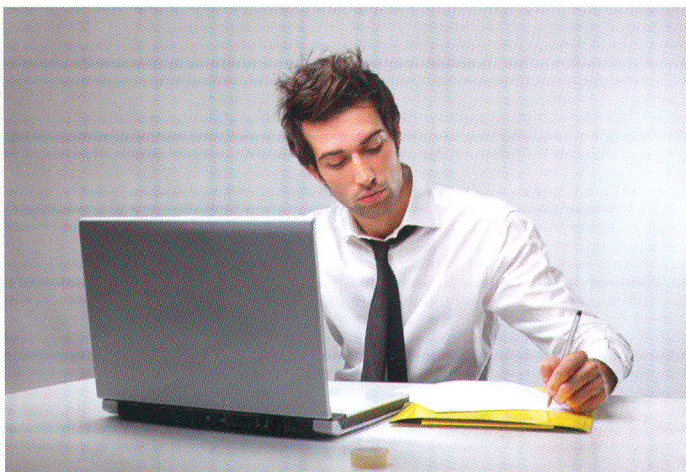
Furthermore in some countries, such as in the United States, even if higher education is more largely "accessible" it is not affordable for all. Recently, discussions raised up about the increase in costs of healthcare. At the same time, one must not forget that the cost of higher education has kept on increasing becoming inaccessible to the majority of younger population.

Not to mention that almost all over the world universities are often unable to meet the educational needs, developing skills that don't match with the labour market requests. «A dismal 58 percent of entering freshmen in the United States actually graduate from the same college within six years. More and more students are questioning the "bang for the buck" as college tuition has risen in cost more than any other good or service since 1990, leaving students with $714 billion outstanding student loan debt in the United States alone. Students around the world are increasingly choosing alternative models of higher education» (Tapscott, Williams, 2010, p. 157) and even a growing number of students worldwide enroll for online programs or distance universities.

«In a world that is characterized by an unprecedented connectivity level, especially among nowadays young people, universities keep on working as islands, mostly autonomous, aimed at scholarship and learning, and, up to now, they did not succeeded in seizing the opportunity to take advantage of the Internet to destroy the walls separating institutions, lecturers and students» (ibidem, p. 164). Furthermore: «The interaction among the new Web, new generation of students, needs of the knowledge global economy and impact of the economic crises is causing a "perfect storm" for universities and everywhere there are signs of imminent change». In 1997, Peter Drucker foresaw that in 30 years time the most important universities

would have been obsolete. Today, his predictions seem less striking and even foresighted. «As the model of pedagogy is challenged, inevitably, the revenue model of universities will be too. If all that large universities have to offer to students are lectures that students can get online for free, from professors, why should those students pay the tuition fees?» (ibidem, p. 171). If traditional universities intend to survive the use of the Internet in higher education they necessarily have to change their approach. Lectures delivered in presence by prestigious lecturers will no longer be the key element for decreeing the success of a university: lectures can be recorded and digitalized and students can access to them whenever and wherever they want. From my perspective, the development of a new teaching model providing students with a collaborative learning environment, where they can play an active role, will allow traditional universities to be successful and innovative. Nowadays, the true value of traditional university lies in the adoption of an innovative way to communicate knowledge by using new technologies and through face-to-face interaction between the teacher and the student. Universities will have to use both virtual interaction environments and in presence cooperation, enriching the dialogue between youth and elderly with new meanings. Moreover, they will have to establish new channels for socialization and exchange of knowledge as well as to encourage students towards a constructive analysis and critical reflection. Teachers will have to acquire skills compliant with the model of interactivity as developed by Socrates, according to which the student becomes the protagonist of the learning process and human interaction becomes the foundation for a mindful growth of knowledge. Debates are currently growing worldwide about new models of higher education, new teaching and learning methodologies and new models for communication and exchange of knowledge based on the use of technologies.

2. Reinventing the university in the 21st Century: the Internet and the "new buildings of the university"

The Internet has by now evolved into an ever content-richer global platform actually becoming the prevailing infrastructure for exchanging of knowledge among people. The existence of an Internet network, made up of interconnected memories, deeply changed the production and transmission of knowledge, research and education processes and mechanisms; it strongly influenced the languages for the communication of knowledge. Television, multimediality and the Internet have democratised the access to knowledge, allowing all citizens to benefit from education even outside traditional educational and training institutions. Nowadays, every university should adapt itself to the changes brought about by the Web, as it happened for many institutions dealing with contents production, which are completely modifying their models of delivery of contents in compliance with the web requirements: books, newspapers, films, musical CDs, any sort of documentaries, video lectures of the most prestigious universities are available on the Web indeed. «Today the businesses of encyclopedias, newspapers and record labels are in various stages of collapse. They've lost their monopolies on the creation and delivery of content» (ibidem).

The so called "digital natives" do no longer think about buying a newspaper. Indeed, in the United States, news stands are disappearing. The Internet allows mass participation and democratisation of contents production as well as a new notion of intellectual property and of new business models. Worldwide this is having a strong impact on the role that universities are playing and will be playing in the global network. The global Web connection by means of computer-based networks will radically change the relationship that most universities have with the new information and communication technologies. The fast spreading of virtual campuses and video lessons on the Internet confirms that in the coming years university students, teachers and lecturers will be working increasingly within inter-university networks.

Nowadays, the transformation of the University is no longer an option, but an imperative, an essential need in this new scenario. New generations of students will no longer be able to develop knowledge and skills without using the Web. In an age of global change in the communication models there are still many universities that keep on providing face-to-face academic lectures which leave small space for interaction with the students. Traditional universities that, ever since their foundation, have been centres of the production and delivery of knowledge, are forced to revise their organizational and educational model, the way they conduct research programs, the role and functions of teachers and students, their physical structures, their classrooms, their research laboratories, the spaces dedicated to social activities. As today, it would seem bizarre to see carriages and horses on the highways, likewise, universities should completely redesign themselves to preserve their role and their functions in this new context.

The creation of a global network for higher education in which teachers and students from different countries participate in the collaborative construction of knowledge is not an utopia; indeed, it can bring a new vitality to the universities by featuring them on the networked global economy.

The world of distance education is increasing at global level. Given this growing availability of new technologies on the Internet, traditional universities are developing new distance teaching and learning models. Up to date, especially in Europe, most of distance universities were separated structures parallel to the traditional ones. Now, in Europe, in the United States and in several countries, a new model of distance university is being developed, as part of the structure of traditional universities, as it happened in Italy in 1992, when Consorzio NETTUNO (Network per l'Università Ovunque) was established. Consorzio NETTUNO's distance university model was included in the traditional universities and at present several

universities worldwide are taking it as a model of inspiration. Even the expression "video lessons" was used for the first time by Consorzio NETTUNO.

Currently the spreading of video lessons on Internet, made available for free by prestigious American and European universities, are changing the model of distance university. Today online and traditional universities often co-exist. This allows the development of an "intra-muros" and "extra-muros" educational and training environment. Thanks to the Internet it is possible to access to knowledge everywhere by using the PC, the smart phones or the tablets without limits of space and time. This means that face-to-face students will rapidly become also distance students since they will try to gather information in places different from the universities in which they are formally enrolled. It is evident how the process towards a new real and virtual learning community is bound for overcoming traditional teaching and learning models.

For millennia, man used voice and memory as tools to spread knowledge. This is the reason why oral culture-based societies learnt how to spread knowledge by using rhythmical sequences and suitable wordings to transfer knowledge. When thinking of Greece and Homeric poems (Iliad and Odyssey), there was a pedagogical purpose on their poetry. According to the Greeks, the poet was an educator who performed a cultural control over society and his role changed with the spreading of writing: at that point the poet was no longer an educator, but he became an artist. The way knowledge was disseminated even at distance became a concrete fact and this change elicited an interesting diatribe among the scholars of that period.

It was Socrates himself, in Plato's Phaedrus, who stated the superiority of orality compared to the written text aimed, according to the philosopher, at «creating false knowledge causing the loss of memory» (Plato, 1993). Instead, Socrates' opponents stated that the emergence of writing enabled the development of science, philosophy, logics, ethics, in other words the tools for developing skills and knowledge were created, allowing the growing of mankind.

The invention of printing in 1454 by Johann Gutenberg determined one of the most radical changes in the communication of ideas and in the field of education; changes were later perceived in all spheres of human activity. Today, new technologies widen the access to knowledge for all citizens and bring about great innovations in the traditional teaching and learning process.

In a few years, we have moved from technologies in which information was communicated through limited ways or combinations (text, image, sound) to those that allowed to integrate different languages (written, iconic, spoken, symbolic and information). We have moved from multimediality to hypermediality, from a sum of different media to a single medium: the computer from having a fixed location to the telecommunication, from individual workstations to the use of interconnected computer networks.

Computer networks put an end to the one-way communication of knowledge by introducing a new communication paradigm and allowing the student to access the content of a dynamic knowledge that he himself can enrich and make available for others. Computer networks allowed to start distance communication and interaction between students and teachers. Despite the lack of the emotional component, deriving from interpersonal relationships, the interactivity introduces in distance education an aspect that was already essential in traditional teaching and learning relationship. Today the Internet allows the direct transmission from the university to the student of lectures, multimedia products, databases, self-assessment systems, tutor support, practice work and the organization of exams. The Internet has greatly enlarged the range of educational solutions, bringing up to the users not only information but even "learning" and "structural knowledge", encouraging collaborative learning among students from different countries within dynamic virtual spaces.

The richness offered by these communication systems allows distance teaching to change the timing and spatial setting of the learning environment. Concerning the time variable, there can be two models: the synchronic and the diachronic one. The "synchronic" model completely changes the traditional idea of distance teaching, allowing students to follow live from home or from their workplace, the lessons that are daily delivered in the places devoted to education. The students can interact with the teacher and with the other students in real time.

As a consequence, the interactivity can be developed as it happens in an actual classroom for traditional teaching, where the teacher delivers his lesson, asks question to the students, while the students give answers, interact with their teachers and with their colleagues. Interaction allows the development of collaborative learning and the automatic connection of learning materials to the learning processes and promotes an interpersonal communication where students can express their feelings, stimulating the others and increasing social relationships.

The "diachronic" model is characterized by a particular flexibility: the users can find on their PCs, tablets and mobile phones the video lessons of the best lecturers in the world, they can download multimedia products, texts, exercises and use them in full autonomy and freedom, in customized way, deciding the time and rhythm of their learning progress.

With regards to the space variable, it is evident that school or university classrooms are not anymore the exclusive places where teaching is delivered, but anybody, anywhere, possessing the proper technological equipment and materials, can build a learning environment to create his/her own training pathway and self-learning process.

Physical distances are overcome. People and cultures really come together within a global system of communication that changes our way of living, of learning and of thinking and that allows to start a concrete trend of innovation and enhancement of the higher education system. Technological development makes it evident that today, thanks to the new organizational models, it is possible to build up a distance university in the same place where traditional universities are located.

3. E-learning and distance university in the new context

The problem in common to all universities worldwide, is no longer whether education reproduces social inequalities or not, but rather how to comply with this new model and create, in the framework of globalised economy, systems that could develop integrated teaching and learning processes by using different languages to communicate the knowledge, with open processes, overcoming space and time limits.

Distance university, in this new context, is not an alternative to traditional universities, but it represents, even for them, a new opportunity and a new way to perform their own role within teaching and researching activities. Today distance university can help traditional ones to develop innovative products, processes and systems. The growth of the educational systems, the openness to the international dimension, the development of the new technologies generate new impulses and relations with other universities as well as with different institutions for the design of new programs and the launch of new initiatives. Universities, intended as a place where processes of production and transfer of knowledge coexist, can play an essential and crucial role in producing the contents to be included into computer-based network. However, to do so, it is necessary to change their role and structure, creating new international alliances and new real and virtual spaces in order to build joint networks of knowledges among the various universities worldwide, supporting the convergence of these institutions. Shared knowledge spaces should not be homogeneous nor uniform. We should not come together to clone each other or to "mc-donaldise" educational and training systems, but rather to assure a new balance between unity and diversity: the unity of the values and of tradition that memory left to us and the diversity of cultures and languages. The new communication technologies allow universities to develop new virtual spaces for interaction and cooperation and to maintain physical places for meeting and communicating, in order to promote the dialogue between different generations.

In this framework, the creation of new international alliances aimed at creating a global network of public and private universities sharing their knowledge, their resources, equipment, curricula, laboratories, teachers and students' internal mobility will become more important as well as preserving the uniqueness of the individual universities as a value and a richness for the network. It is necessary to create on the Internet a network of universities made not only of technologies, but mainly of people, intelligences able to interconnect their own knowledge, while respecting cultural, political, religious and economic differences. A network of universities that, thanks to the Internet, extends and multiplies the possibilities of acquiring information and knowledge as well as establishing interactions and exchanges among people.

Each one of us can take part in the construction of this network of relations and contribute to the construction of a shared area of globalised and interconnected knowledge.

Being at the crossroad among research, education and innovation, in several respects, universities hold the keys of economy in the knowledge society. The university is a common good which is intimately connected to the objective every country has. The political and cultural meaning of this objective and its feasibility depend on the ability of the country to properly negotiate the inclusion of its universities into the cross-borders fields of the Web.

4. Consortia between universities and industry: a new renaissance for the universities

Consortia among different universities, cooperating in the joint production of contents in the Internet-based learning environment, in the co-creation of collaborative knowledge, based on a solid organisational and pedagogical model, will give life to new models of distance (online or virtual) universities as well as to a new model of university as such. This new university will be a real and virtual place in which, both on the distance and on face-to-face modality, the experience and competence of the teacher is transferred to the students according to continuous models of interaction. An interaction among youth and mature persons, between experts and non-experts, allowing the development of a critical understanding and as a consequence its transformation into knowledge.

The universities should establish consortia in order to create a global center of excellence. They should jointly design curricula of the various degree courses, hire the best teachers at global level and involve them in the production of video lessons to be posted online. The same discipline should include video lessons produced and delivered by different teachers from universities of the various countries, who should use their mother language and their own cultural, historical, political and religious background.

This is the value that a consortium among universities can bring, the value of diversity intended as a richness for all. The above-mentioned opportunity becomes a universal value and goes beyond the availability on the Web of video lessons, even if delivered by prestigious lecturers. The students could enroll in one of the universities member of the consortium and attend, at distance, video lessons that could be delivered by lecturers of other universities, even keeping on attending the university in which they are enrolled in order to have face-to-face interactions with their teachers as well as with the other students.

Consortia between universities and business may easily allow the development of a global network to provide knowledge and skills also to people who have already entered the labour market. For the current knowledge worker being competitive is essential if they want to start or develop their professional career in a modern, dynamic and technology-based environment. The new models of collaborative learning could contribute to make the efforts of students who work or who are older more creative and efficient and to update their own competences.

Creating an infrastructure for the university of the 21st Century means building up a technological infrastructure, beside the university physical campuses, allowing to easily develop the University 2.0. As a consequence, the creation of a new pedagogical model and a new model of production and delivery of knowledge become even more essential for the survival of the university itself.

5. Conclusions

In the present time more than ever, it is essential to enhance the cooperation in the fields of university and research. The dialogue between scholars and representatives of the academic world, the harmonization of higher education and research programs, the students and teachers' mobility represent the unavoidable path to be followed to make intercultural dialogue becoming part of the everyday life for all of us. In these years, academic institutions were not supported nor encouraged to create curricula able to supply the tools that facilitate communication, understanding, dialogue and cooperation among different contexts.

The joint creation of Internet-based educational contents and models among different universities develop those knowledges that help all citizens to take into consideration cultural, religious and political differences as a richness for humankind and not tools for conflict and war. We cannot remain indifferent from the conflicts taking place in many countries since, given the globalisation, they will have a growing impact on our freedom.

If universities are set apart the results will consist in a deep separation from the needs of the society on one hand, and the answers that the academic world gives to these needs on the other hand.

If on one side there are educational institutions proposing local-based educational paths, on the other side there are people connected with every place in the world in real time, driven to communicate in social and professional terms with the Web global scenario. The Web interconnected world enables people to interact, even when interaction intervenes among those who do not possess cultural tools to communicate with persons coming from completely different worlds.

The construction of a global society is precisely based on a new way to consider the internationalisation of the educational systems. An internationalisation that should rely on sharing curricula as well as on the establishment of consortia among traditional universities from countries having different political and cultural settings, but with the common objective of creating new Internet-based distance teaching and learning models.

Together, the interconnected intelligences of the teachers and the students of the northern and southern borders of the world, thanks to the new tools given by social networks and to the new virtual and tridimensional interaction models that the Web gives us, will be able to build new knowledge. Teachers and students together can develop a network of knowledge and skills not based on the imposition of one's specific cultural models, but rather on the will to compare cultures and educational systems thus creating a true laboratory for intercultural and inter-linguistic cooperation.

A laboratory which allows to develop a new cultural and scientific area in which we create new contents as well as new technology-based teaching and learning models in order to make younger generations the protagonists of change.

Democratising the access to knowledge helps feeding the minds, allowing everybody to start from the same point and eradicate the slavery of ignorance. This is the reason why all countries must support the innovative forces that can restore the trust in some countries, leading them towards a democratic path and an economic development, as well as guiding others towards the respect for ideological, cultural and religious differences.

Today – thanks to the new communication technologies – if we wish to build and transmit knowledge, borders are uncertain, frontiers are places of continuity and not of conflicts. All citizens worldwide, with no more limits of space and time, can follow courses to acquire literacy, to earn new competences as well to consolidate a system of shared values such as those – in theory accepted, but almost never respected – of justice and peace.

These remarks are not an utopia. I am really persuaded that today the university – as a playground where the minds of the youths of the entire world train themselves – can rely on the Internet to create an open system of teaching and learning capable of updating itself, integrating all knowledge available in the Web and put in practice the exchange of knowledge at global level. All this can happen thanks to a new model of distance university: "a distance university without distances".

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