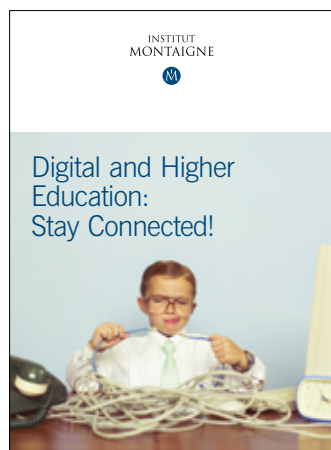




Executive summary



issue and the professional integration of students has failed to prove its efficiency. In spite of many considerable reforms carried out since 1990 and led by European harmonisation and national autonomisation movements, a feeling of unachieved remains.

This report analyses the way in which institutions of French higher education, for initial and continuous training, can use digital potential efficiently, to enhance the quality of their educational model, better integrate students in the professional world and reinforce French institutions' attractiveness in France and abroad.

Learn and train in a completely new environment

Identifying the reforms that the French higher education should carry out requires first an examination of the deep evolutions of our societies and particularly the digital revolution and its effects.

Although the notion of “digital revolution” is overused and overrated, it remains relevant today. It does not only revolutionise the job market: it has disrupted access to knowledge, research innovation and therefore training.

The revolution of skills and jobs is at its beginning. Innovation cycles appear to be tightening, new skills are constantly emerging, at a faster pace, and no adapted training course exists to support them. The economy's informatisation results in the necessity of integrating information and communications technology (ICT) as a core component to all curricula.

French higher education is confronted to numerous challenges: the constant increase in the number of students, the stagnation of French universities in international rankings, budgetary issues, etc. Dropping out of school or university is an ongoing

Going beyond mastering digital and technical skills in order to use them in a job, the new challenge is to anticipate societal mutations and develop a critical and creative spirit. In the emerging creative economy, students should not merely learn but learn to learn, and be ready to pursue their training throughout their professional life.

The French educational system is unadapted to the new needs induced by the digital revolution

Results are far from being satisfying in both technical and theoretical training, and because of the lack of existence of an adapted training, around 800,000 jobs will be vacant in the ICT sector in the European Union (EU) in 2020. Renewing skills and fully addressing the digital environment that comes with this revolution will enable French institutions to become an actor of added value and not only a “consumer”, as is majorly the case today in the global chain of value. This renewal constitutes the main leverage for competitiveness and capacity to stimulate innovation in France and in Europe. It is crucial today to acquire the necessary means to tackle this issue.

The digital sector, as both a means of rationalisation and better management of French institutions, but also as a fundamental knowledge for students, should be systematically integrated in the reforms of French higher education. It enables, thanks to innovative education, to change learning methods, individualise courses and efficiently fight university dropout rates.

Structural reforms of the training system (both initial and continuous) are necessary. However, they are conditioned to the autonomisation of universities, which is a prerequisite to the mutation and modernisation of our institutions. Furthermore, such reforms should integrate a European approach, in the context of the Bologna process. They should also make possible for institutions to train students and professors to acquire new digital skills. This is the aim we set for the 10 propositions of this report, which seeks to describe the conditions of success of such a reform.

Our proposals

Enable universities to tackle digital challenges, by an increased autonomy and shared data

Proposal n°1

Thanks to reliable data and steering tools, renovate the next contracts concluded by universities and communities of universities and institutions ("ComUE") so as to simplify the administrative supervision of higher education and research institutions and achieve their autonomy.

Proposal n°2

Enable free access to data originating from research and to spaces of open innovation, notably by pursuing the modernisation and development of electronic libraries.

Proposal n°3

Create a new financing program comparable to the Programme for Investments of the Future (*programme d'investissements d'avenir*) an initiative launched by the French Government, in order to systematically develop a French "digital sovereignty" rooted in a global research effort. This financing will enable for French and European creativity to blossom, and lead to positive economic benefits.

Promote digital training

Proposal n°4

Renew universities' and schools' economic models thanks to a national concertation on the modalities and usages of digital tools in higher education, by carrying out the three following priorities:

- Reinforce the supply and organisation of courses: develop digital training, including in full-time courses, create dynamic, evolutive and collaborative content
- Increase national investment dedicated to renewing training: significantly develop research or subject conversion leaves (*Congés pour Recherche ou Conversion Thématique*)
- Initiate a great transformation of student life: invest in new equipments and infrastructures.

Train people to digital tools and their challenges

Proposal n°5

Develop the activity of research labs and digital and education experimentation centers, for higher education and research.

Proposal n°6

Promote training on legal, ethical and security challenges, the implementation of norms, data protection, the development of blockchain research, and the implementation of modules aiming at raising awareness on data ethics by developing:

- Collaborative research
- Incubation of firms initially financed by public funding
- Setting-up "early-stage initiatives"
- Simplifying intellectual property rules in the field of research.

Train people throughout their lives to jobs of the digital age

Proposal n°7

Improve student orientation and preparation to the jobs of the digital age by:

- Acting the fundamental need to develop new skills
- Providing a better student orientation towards the most performant trainings in economic and social terms
- Providing a better support to professional integration
- Improving the management of university offers and productions of universities in order to address the growing number of students
- Increasing public-private collaborations regarding student orientation.

Proposal n°8

Use digital tools as leverage for the development of student entrepreneurship by:

- Creating prizes for digital innovation at the academic stage
- Developing "Good Practice Campuses"
- Creating spaces dedicated to facilitating the development of student projects
- Organising digital "open days"
- Creating digital resources for students who become actors of higher education and research
- Developing MOOCs and other tools to better manage student orientation

Proposal n°9

In order to be in tune with the needs of the 3rd Industrial Revolution, the digital economy and the 4.0 industry, reinforce partnerships between universities and schools and the private sector by:

- Creating Management and Digital Academies at the regional level
- Developing locations on campuses such as incubators or digital experimentation labs.

Proposal n°10

Create greater synergies between European higher education and research through:

- Mutual recognition of ECTS credits distributed by online training implying students from different European universities
- Creating a Diploma Supplement to digital diplomas
- Creating a European digital passport
- Businesses and education answering jointly to H2020 projects, with access to European funding.