

CHAPTER 13

The Geneva-Tsinghua Initiative as a Test bench of the Future of Universities

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UNIVERSITIES IN THE TURMOIL OF DEEP CHANGES

To secure Europe's future economic prosperity and competitiveness against an extremely challenging internal and external environment, many actions have to be taken. Above all, continued substantial investments in research and innovation capabilities are fundamental to the knowledge economy that Europe needs to drive private sector investment, human capital formation, employment and sustainable growth. The rapidly changing global economic and political landscape, the exponential development of computing power and technological capacities, and the multiple challenges that confront all our societies in the years to come make these long-term investments more crucial than ever before.

Our future prosperity and well-being depend on world-class research and innovation. Even a small increase in R&D has the potential to translate into per capita growth and have a significant and long-term effect on employment. The rate of return for publicly funded R&D usually exceeds 30% (Glover *et al.*, n.d.) and there are significant benefits to cross-countries programs that complement significant national investments in excellent research and innovation. In particular, EU funding enables the best researchers in Europe to work with each other, resulting in higher quality of research as evidenced for example by their citation impact. So investing in excellent research and innovation should be a top priority for all who want smart, sustainable and inclusive growth.

In this context, universities all over the world are experiencing deep transformations that have been described in many books and articles (Achard, 2016; Flückiger & Achard, 2016; Barnett, 2012; Crow & Dabars, 2015; Van der Zwaan, 2017). Let us summarize some of these global trends.

The first one is a massification of the demand for higher education (HE). This trend is pushed by converging factors: demography, an economic boom of some regions of the world that triggers an explosion of the “middle class” and increasing needs of the knowledge economy. If this massification is slowing down in western countries, it is clearly visible at a global scale where Asia and Africa have an increasing share of student population. By 2020, China and India will train 40% of world’s newly graduates.

Working hand-in-hand with massification is a diversification of student cohorts. For a long time a sanctuary of privileged, young, white males, universities are becoming more similar to society at large: gender, racial, demographical and socio-economical diversity is blooming. Not only “non-traditional” students are expanding, but “non-traditional” HE pathways are also increasing. More and more, people are returning to university at various stages of their professional careers to acquire new skills, certificates or knowledge. This Life Long Learning trend is a long-term one, gaining traction due to the acceleration of socio-technological innovations.

A more worrying consequence of massification is the decrease in state investment in universities, at least on a per student basis if not on an absolute one. This disinvestment has different consequences depending on national policies. US universities have seen a rising cost of student fees over several decades and much above inflation. In Europe, universities are increasingly seeking money from third parties: private companies, alumni, charity funds, etc. Both governmental and third party partners demand a more transparent and higher “return on investment”. This drives HE institutions to emphasize and pay closer attention to their economical and social impact.

Diversification of the student population together with the increasing cost of HE makes a strong argument for increased attention to the needs and potential obstacles encountered by each and every student. Two routes are followed to reduce attrition as much as possible: the diversification of teaching methods, and the use of big data to tailor personal support. Online learning, blended learning, flipped classrooms, crossover learning, mastery learning, hands-on learning, learning-by-doing and a variety of other innovative learning methods are being experimented, tested and discussed in most academic institutions. Most of these aren’t new, but their pros and cons are better known and professors and instructors have a larger toolbox than ever. In parallel, the amount of data collected on student activities, particularly during online activities, is exponentially increasing, following Moore’s law. New analytical tools are therefore developed to improve admissions, prevent

drop-off or create personal course contents (Lane, 2014; Wilson & Nichols, 2015.)

Forecasting is a difficult craft in an era where disruptive technological changes are arriving at a fast pace. By definition, breakthroughs and discoveries are almost impossible to predict. But we can imagine what the future will look like if the current trends amplify. We can even do more than that and try to experiment some of these ideas in pilot programs. That's what the University of Geneva and Tsinghua University are currently doing together in the field of the SDGs.

THE GENEVA-TSINGHUA INITIATIVE

In 2015 the UN General Assembly formally accepted a new set of 17 measurable Sustainable Development Goals (SDGs), ranging from ending world poverty to achieving gender equality and empowering women by 2030. These are to succeed the Millennium Development Goals, a set of eight measurable goals which were signed in September 2000.

Education for sustainable development (ESD) is explicitly recognized in the SDGs as part of Target 4.7 of the SDG on education, together with Global Citizenship Education. At the same time, it is important to emphasize ESD's crucial importance for all the other 16 SDGs. With its overall aim to develop cross-cutting sustainability competencies in learners, ESD is an essential contribution to all efforts to achieve the SDGs, enabling individuals to contribute to sustainable development by promoting societal, economic and political change as well as by transforming their own behaviour.

The Geneva-Tsinghua Initiative for Sustainable Development Goals (GTI) is a comprehensive portfolio of teaching, exchange and innovation programs aimed at contributing concretely to the achievement of United Nations' Sustainable Development Goals (SDGs, also known as "Global Goals"). It includes a Summer school ("ODD summer"), a Master's degree program in "Innovation, human development and sustainability", a Certificate (continuous education) program, a scholar's exchange program, an accelerator, online courses, hackathons and conferences.

Mobility is at the heart of this initiative and students spend time in at least two places: Geneva, the city with the most international organizations in the world, where they can learn about the practical reality of the SDGs from field experts who are on the front line of tackling the SDGs (UNEP, UNDP, WHO, ITU, UNITAR...), and Beijing and Shenzhen, China's leading clusters for software and hardware innovation, where they can learn what it takes to bring their ideas and prototypes to market in the world's largest economy and how they can contribute in one way or another to the implementation of SDGs.

The GTI's pedagogical approach is characterized by a focus on hands-on learning inspired by real-world problems. Group challenges are the backbone of this methodology, where students from different disciplinary and cultural backgrounds are invited to work together.

The GTI, in its first years, is made possible thanks to generous support of charities and alumni in each institution.

HOW GTI SERVES AS A TEST BENCH OF FUTURE EVOLUTIONS

GTI allows our two institutions to make a real test of new educational and translational models. We don't test different hypotheses separately but all of them together as they form a consistent system.

First of all, this portfolio is conceived globally for a continuum of audiences: summer students, Master students, life-long learners, scholars, online students, citizens interested in some events. The difference between these audiences is blurring, and bridges and modularity must be created from the very beginning between the different programs. It forces us to rethink students' pathways. A summer student can become a Master student, a life-long learner can participate in an accelerator activity, an online student can participate in a hackathon, etc. Moreover, these different audiences must find places, projects and opportunities to interact, share questions and ideas, give specific insights to each other's projects.

This diversity is also constructed from the start by mixing disciplinary backgrounds and by immersing students in two cultures (International Geneva, Entrepreneurial China). The goal is to teach them to think and act outside of their comfort zones, as well as to be prepared for "real life" situations where interactions with people from different backgrounds, cultures, ages, are the everyday business of most companies or institutions. In other words, to prepare students for the transition from the academic world to a global economy transformed by digital technology and the challenges of sustainable development.

This "real world" approach is also the opportunity to consolidate teaching by solving concrete problems. This is an opportunity to foster learning-by-doing, but also social impact and innovation. Indeed, in order to accelerate innovation and maximize its positive social impact, stakeholders from different disciplines need a platform to exchange and discuss their ideas and experiences. The GTI provides in this respect a crucial platform for knowledge exchange, enabling students and researchers to present their findings and practitioners to outline their needs and insights, while relating their experiences from the field. In the GTI, students are coming up with innovative solutions to some of the world's most pressing problems. By working

collaboratively at the grassroots level, students are moving ideas forward to address a wide array of SDGs challenges.

Last, the GTI crystallizes the convergence between international organizations, the academic world and the business sector. This is true in the construction of the programs as well as in the financing of the whole endeavour where partnerships with non-governmental entities were keys factors of our ability to start so broadly. The coherence of the initiative was crucial for that matter.

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