

Reflecting on the future: universities post-COVID

LEARNING TRANS- FORMING

In the wake of the COVID-19 pandemic, what challenges do universities face? How should the role of higher education evolve? What difficulties will our new scenario bring? How will we overcome them? How does adapting to digital transformation fit in? What should our research model be?

Universities must change, and spokespeople, faculty members and researchers from the UOC have been sharing their reflections on where a roadmap for the coming years should take us.

Towards a new research culture



Marta Aymerich
UOC Vice President for Strategic
Planning and Research

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Science is a pillar of democratic society. I share this view and have written as much on other occasions: science helps us in the difficult task of decision-making under uncertain and complex conditions. Because life, above all life in an acceptable democracy, means we cannot avoid complexity and uncertainty, we must learn to live with and integrate this into our daily lives.

Scientific research culture is based on and guided by a set of values, practices and elements that highlight the value of and need for a fairer, healthier and more sustainable future. With this in mind, the Research and Innovation Committee at the UOC is working to ensure that our research culture generates and promotes working environments that foster and encourage critical thought and creativity. Universities should provide environments where professionals – be they scientists, thinkers, teachers or researchers – can generate new knowledge that questions the status quo. The ivory tower stereotype must be replaced by free, open, permeable spaces focusing on the long term, avoiding spurious interests, control or censorship, and whose only limitation is knowledge and the common good.

When the world faces complex social and environmental challenges,

universities must provide the space required to ask questions, debate freely and explore new intellectual fields. They should be a forum open not only to scientific and academic communities, but also to the students themselves, to alumni and all other partners, in the broadest sense of the word. In short, this means opening up to large sections of our society. If we understand universities as knowledge hubs for lifelong learning (and questioning, analysing, debating and studying), then we need to act accordingly. Thinking – learning to think – is something that involves everyone.

The COVID-19 pandemic has made the general public aware of the importance of science. And if science is to help us face future challenges, we need to educate people in the culture of scientific research. We need to design curricula that include specific content. Above all, we must put values into practice and ensure they permeate our daily work as teachers who generate knowledge through research, transmit it through teaching and exchange it with the other social agents in the community we serve. One cannot deny that we do not always practice what we preach: we fail to do so when we do not open up the knowledge we generate to society as a whole; we fail when we transmit knowledge without promoting

Towards a new research culture

critical thought or creativity, and we fail when we place little importance on the exchange of knowledge between researchers and society.

University professors must operate in an environment of open science. In other words, we must make sure research results, whether publications or data, are available to everyone and accessible everywhere – even more so if the research is publicly funded. This also means rethinking the research assessment and faculty promotion systems, where the number of published articles and journals in which they appear are given too much weight: the notorious “publish or perish”. Obsession with journal impact factors often distances science from society and turns it into a private business, impeding open access to knowledge.

Along with open science, we need to consider other parameters when assessing professors research, including the contribution to society (the problem it aims to solve, the questions it tries to answer, the challenges it meets), the capacity to train future researchers, the team’s growth (in human terms as well), and the social impact of the research conducted. Fortunately, there are a number of international movements to help improve assessment systems, such as the San Francisco Declaration on Research Assessment (DORA), and numerous initiatives to promote open science, such as that developed by the European University Association, helping make the transition toward a more sustainable and responsible way of assessing research.

However, as well as generating relevant knowledge responsibly and publishing it openly, we also need to be able to connect it to other areas beyond the disciplinary borders. Tackling complexity requires interdisciplinarity, as many present and future challenges are found in these borderlands, such as the frontier between technology and human sciences. Scientists’ training and work require learning how to open the mind and connect knowledge. Between disciplines. Between social sciences and engineering, between humanities and experimental sciences. Between the knowledge held by universities and that generated elsewhere (in hospitals, museums, NGOs or companies). We need to exchange this knowledge so that it emerges in new forms, with new questions and applicable results. This requires assessing the whole knowledge exchange process, as well as its transmission and dissemination.

The emergence of new knowledge from the crossroads between several disciplines is what we call transdisciplinarity. For instance, from the intersection between computer engineering and health sciences emerges e-health. And this new knowledge is where people trained in different fields (computer science, telecommunications, medicine, psychology, public health) can interact and where complex problems can be tackled, such as researching the best technology for contact tracing during a pandemic. A multifaceted or, if you will, holistic vision makes it easier to approach complexity. Nonetheless, the difficulty remains huge and answering research questions often re-

Towards a new research culture

quires limiting their scope, as they can become unapproachable, impossible to answer. This is also part of the challenge. Hence, rethinking research necessarily requires giving much greater consideration to both interdisciplinarity and transdisciplinarity.

I said earlier that connecting and exchanging knowledge generates applicable results. A good example of this is translational research, i.e. research that takes the potential end users for its results into account, whether they be students, in the case of educational research, or patients, in the case of health sciences. In translational health research, patients' participation,

not just as subjects of the study but also as agents involved in research design, is essential. In the previous example of contact tracing, it is easy to imagine patients' and citizens' participation in a research phase involving co-designing an app for reporting symptoms and contacts.

Thus, once we establish that science should not only accompany society but be an integral part of it and be represented, then society's active participation in research also becomes essential. Furthermore, such participation provides firm foundations for a new research culture, in which exchange between the lab, professionals and citizens must be far more open.

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