

Universities in the construction of a new era

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Good morning, I would like to thank Times Higher Education for providing such a unique opportunity to discuss the theme **Universities for the public good: reasserting the value of higher education post-pandemic**. At such an uncertain moment in our institutions, and for global society as a whole, this topic could not be more timely. The challenges of higher education speak to their own survival, and the need to face the rebuilding societies hardly hit by the triple crises we face.

The need to connect universities with societies has been a crucial aim of the Métricas project, a FAPESP funded public policy research project started in 2017. The project unites researchers from USP, Unicamp and Unesp to create new abilities in the São Paulo State public universities to map and to improve their analytical abilities in comparing themselves with national and international peers. To that end, what follows is a set of priorities to support decision-making under immense pressure and uncertainty.

As a sector, caring for, protecting and listening to internal communities is of utmost importance, but so is the recognition that we play a vital function in almost every facet of our broader community's lives. To that end, when we take decisions, we should always have our external stakeholders in mind, as if they were present in the room with us. Whether they are ministers of state, or patients being treated in our university hospitals. Whether they are entrepreneurs engaged in producing technological solutions to society's problems or one of the millions across the continent who have been left jobless and facing an uncertain future. All of them have a vested interest in the success of science and technology in Latin America, and all deserve consideration.

University managers and leaders around the continent have taken on historic challenges this year. Dealing with extreme uncertainty, ruptures of normal activity and an extremely anxious university community, it is with your dedication, compassion and leadership that higher education will emerge stronger, more united and ready to face the next global challenges.

→ Latin American recovery context

According to the ECLAC report on the evolution and impacts of the COVID-19 pandemic in Latin America and the Caribbean, *"The crisis has hit... [the] productive and business structure."* Over a third of formal employment and a quarter of GDP are generated in sectors heavily hit by the crisis. The impact on manufacturing could produce a regressive structural change. This requires policies to change the production structure and improve service delivery. In other words, incentives other than those that currently prevail for private companies, together with the State, to make the necessary investments to diversify the economic structure, ensure

continuous and stable growth processes, and avoid social and environmental setbacks.

→ The University as a dynamic system

Universities are complex systems composed of a set of inputs, that are usually fairly predictable, a set of processes that are increasingly institutionalised, a set of outputs that are extremely diverse and a set of impacts that are almost infinite. Underpinning these characteristics are a set of humanistic principles that help us to determine whether they are fulfilling their duty to society.

Universities are often seen as slow to adapt and rigid, and some have speculated that the university has become less relevant in an age of digital communications. On the contrary, the current crises have shown that universities are capable of huge and profound changes.

In many universities, such as UNAM and Monterrey Tec in Mexico, USM in Peru, Los Andes in Colombia, Univ. do Chile and PUC Chile, UBA in Argentina and several Universities in Brazil, these changes have ensured a robust connection with societal demands related to health services, knowledge building and human resources training. This connection mobilizes dynamic and creative forces that drive economies, break new frontiers in knowledge and provide healthcare, culture and critical reflection to societies.

This paper summarises the findings of a three-day online forum held by *Projeto Métricas* that aimed to discuss universities' responses to the current crisis, and also how to establish and consolidate new scientific leadership. This concept considers not the role of individuals in science, but in the role that the scientific community has assumed in confronting the current crises, and the role it will have in constructing the world that will follow in their aftermath.

It identified four pillars of university life that must be addressed to confront the challenges ahead:

The first is a planned approach to the integration of technology and tools to create an inclusive teaching environment that prepares students for the future.

The second is the need for a multidisciplinary, problem-oriented approach to research that is attuned to local demands.

The third requires universities to take a strategic positioning to strengthen bonds with society to bring society closer to the academy and ensure that society's needs are better served.

Finally, this requires governance that is lighter and more agile, better prepared to deal with an unpredictable future.

Third Forum “Academic Performance and International Comparisons”

The 2020 Forum “Academic Performance and International Comparisons” established an enabling environment for **dialogue and collaboration** on the academic performance of universities, funding agencies, NGOs, governments, companies and society in confronting the crises of 2020. The event discussed

proposals to revisit the indicators in use, and formulate new indicators relating to social, economic and environmental impact.

Crises raise risk awareness and also the cost of inaction in the education of new generations. It has revealed both the extraordinary power and importance of higher education and science to society, not just in the search for diagnostic, curative, prophylactic and palliative treatments for the virus, but for its role in creating just, equitable and open societies, and for providing the tools for dignified and valuable work that will be needed to overcome the economic crisis.

Because of this central role, it offers opportunities for the construction of a better future. Crises develop new abilities in governance that value cooperation.

All **areas of knowledge have a contribution to make in identifying and mitigating the effects of the health, economic, social and political crises.** Beyond healthcare, universities have used their capabilities to respond to urgent societal demands.

→ Teaching during the crises of 2020

The early suspension of physical teaching on university campuses in Brazil meant that universities were faced with a choice – to transfer to remote teaching modalities or to opt to suspend all teaching activities until possible to resume in the classroom. The state universities of São Paulo opted to take teaching online, with USP transferring 92% of its activities online, and Unicamp 97%.

A survey conducted by Métricas found that while staff did not have much experience, and there is a persistent need for support and training from the university at departmental, faculty and central administration level, on the whole staff were positive about their experience and see the potential for incorporating more technology to improve teaching when physical lessons return. However, in a developing country, the transition to remote learning risks excluding a large number of underprivileged students without adequate internet access and study conditions at home – this is an urgent policy need that must be considered in the transition.

During the health crisis, the **transition to remote learning** will ultimately lead to the adoption of a **hybrid model**, focused on the student, and that takes into account the needs and digital access of the whole university community.

Universities are monitoring and assessing their **readiness to respond to adversity**, since disruption and uncertainty are likely to continue in the new era. The majority of medical opinion suggests that this is unlikely to be the last pandemic, and it is also unlikely to be a problem that disappears in the imminent future. Inaction, and a lack of preparation are therefore likely not just to negatively affect the present but will seriously impair the university in the future. If remote learning risks excluding underprivileged populations, a premature return to the classroom risks excluding the university population with health conditions, and worse, could put lives at risk. It is a compromise that university decision makers will have to weigh up in the coming months.

After the pandemic, the **physical classroom will remain a vital component of a university education**. Living together in a knowledge community to share experiences is one of the fundamental components of a university education and cannot be replaced with online teaching. To learn hybrid forms of knowledge building can, however, greatly expand the range of what is possible to deliver through a student-centred methodology.

Innovative policy solutions were required to ensure that digital access was guaranteed for the whole university community. This has included the purchasing of data plans for students, the donation of electronic equipment and a more rigorous mapping of vulnerabilities within the student body. This has in many cases made a more inclusive teaching environment possible, because proper attention is being paid to digital exclusion, which in educational terms has been a source of major inequalities, even before the suspension of teaching. Universities must be fully attentive to the needs of all their students considering the diversity of socio-economic backgrounds.

Finally, the reduction of physical mobility has led to an **increase in the use of information communication technologies**, this has also led to a huge improvement in knowledge and capability with these tools. While the tools used to teach have significantly changed and shaped the way teaching is delivered during the pandemic, laboratories and meeting spaces will also need to be carefully redesigned in the future to reduce the impact of social distancing on university life, improving and assuring the safety of the university community.

Research in the new emerging era:

While the search for effective treatments and a vaccine have occupied much of the global media attention for science in this period, it is clear that the contribution of science will be much greater if the world is to begin its recovery. On the positive side, integration and problem-orientation of research has become much more explicit in the face of imminent catastrophe. This can help to position higher education better to confront global crises and grand challenges in the future.

Science that is responsive to societal problems must adopt a **strategic outlook** – it must be both permeable and responsive to societal problems, and be equipped with the partnerships and relationships with the society around it in order to make real impact. This must be underpinned by basic research – much of the current advance in vaccine development is based on a standing reserve of basic research developed over many years. This is what allowed the DNA sequencing of the virus, for example. Engagement with **local needs**, and a presence in national and international research networks show the **relevance of science and innovation**.

The **multidisciplinary mobilisation** of research and outreach has shown the best way to **respond to the crises of 2020 and other sustainable development**

challenges. It is clearer than ever that complex societal challenges do not respect disciplinary or institutional boundaries, and cannot be adequately answered by staying within them. The crises have brought together groups with no previous interaction to work on solutions in new and innovative platforms.

The search for **complementary financial resources to respond to the health crisis** led universities to develop new capabilities and new awareness of the need for transparency and accountability to society that goes beyond fiscal discipline and speaks to impact on societies. While medical sciences have been active and articulate in requesting funding for research, PPE and hospital equipment, the social sciences have also proven extremely valuable in the mapping of vulnerabilities for the allocation of vital resources.

The financial crisis will have a heavy impact on science all over the globe, and years of scarcity lie ahead. In this context, the advance of science depends on multidisciplinary groups with the ability to confront complex problems, to connect nationally and international, to value human dignity and the resolve major problems faced by humanity. Contributions to mitigate economic and social effects are vital to maintain the leadership and public financing of science.

→ **Strategic positioning for sustainable development**

In the last section, we highlighted that strategic positioning was necessary for research agendas going forward, both to ensure that complex problems are adequately addressed, and that financing be guaranteed for vital work in the future.

Strategic positioning for sustainable development will be possible when universities are **focused on the values that tie a community together**, such as humanism, compassion, altruism, solidarity, the will to serve society and a sense of responsibility. While there are a diversity of perspectives, traditions and customs within the academy that sometimes make it seem as though it is in conflict, these are values shared by all.

These values must be embedded in the search for excellence – there can be no “excellence” in higher education that does not conform to these values. Because excellence is contextually based and not an immanent property, higher education can only be said to be doing its job if it is serving the society that sustains it.

Moving towards **tying research agendas to societal problems** will mean deepening of our understanding of the dynamics of higher education with its environment. This will require us to consider the real impact of work done and not adherence to simplistic quantitative measures that intend to remove it from this context. Citation impact will continue to be an important part of any conception of the impact of higher education, but it cannot be allowed to represent its totality, or used as a proxy for local impact up to the global level.

Deepening partnerships with external stakeholders will allow universities to achieve and extend the potential for generating social impact through research, teaching and

knowledge exchange. Similarly, involving **more representation from society in university** decision making processes, including those that decide how the university measures and presents itself to the public would increase transparency, accountability and assure a financially sustainable future for the institutions themselves.

These partnerships should also recognise that nothing that we do is achieved alone. Productive and symbiotic partnerships with non-academic actors are essential for universities to reach society, to understand more about themselves and to develop new capabilities. The Métricas Project recently worked with Elsevier Latin America to train the community in bibliometric practices. This type of virtuous relationship allows universities to draw on knowledge and expertise from outside their walls, and bring these experiences back in to the community.

To reconcile basic research and to produce socially relevant research agendas, universities must become more active interlocutors with society, treating social communication as a central function of the modern university. This means **professionalising the way in which the institution communicates with the general public.**

In parallel, the role of the academic researcher as a public figure must be reinforced, with a much broader concept of social outreach and impact needed to ensure that science is focused on building up new knowledge, solving societal problems as well as informing the public. This public facing role has increased during the pandemic, and universities must find a way of accommodating, measuring and rewarding it as an important role for higher education.

The education of new generations should prioritise **T competences**, with specialisation and a broad vision that increases citizens' capacity to participate in new fields. This is required to confront **complex challenges**, such as the Sustainable Development Goals, which transcend institutional and traditional disciplinary barriers.

Science and innovation, in gaining greater leadership, have a determining role in the **evolution of mentalities and values.** Inculcating these values helps to overcome division in a polarised and febrile political and social environment, and can help to fight back against the obscurantism and false information that pollutes public debate. This fightback does not consist in the defeat of individual pieces of false information, or individual people, but in equipping the public with the critical tools forged from science and education to formulate responses themselves.

→ **University governance to confront the crisis**

For these changes to be possible, public universities have had to undergo profound changes in their governance and administrative processes. Universities are commonly assumed to be crystallised structures in which meaningful change is slow, and often determined by generational changes. What the crisis has shown is that *in*

extremis, some universities have managed to adapt almost every area of their operations to confront the crisis. Many of these changes to university governance will not be temporary, and so it is worth considering a set of criteria that will allow universities to better steer governance changes, and ensure that they are well equipped to face the future.

In the new era that will emerge from the pandemic, the **unpredictability of the future** induces universities to adopt **light and agile structures with well-defined responsibilities** in the spheres of teaching, research, innovation, outreach and culture, as well as in the processes of university governance. These changes should be guided by the principle that reduction in administrative weight should not be accompanied by a reduction in decision making capability, or in their participation and transparency. Early experiences with virtual university councils in Unesp and participative evaluation in Unicamp have shown that participation actually increased with the transition to online meetings, as more of the community were able to reach the meetings without difficulty.

Universities have revealed their **capacity to reorganise** in the crisis. This **readiness should be scrutinized through an indicator**. At its simplest level, this should be an indicator that considers how much of a university's output and impact could be maintained despite dramatic alterations to its processes and inputs. This type of analysis will show how fungible the institution is in changing its processes to service the missions and functions it performed before the crisis.

The second level to this is to be able to anticipate new missions and societal needs, and become reactive and responsive to societal needs as they arise. This second challenge is more complex as it requires consideration not just of new inputs and processes to the same outputs and impacts, but a consideration and mapping of new impacts requiring new outputs, which in turn require new processes and inputs.

There is a dual responsibility to recognise the real effects that the **use of indicators** has on academic life and **respecting diversity** between areas of knowledge. Indicators in university governance drive and influence behaviour, they drive financing decisions and can contribute to understandings of perceived quality. When this is applied correctly, it can help to compare and ensure that what is produced is of the highest possible quality. When they are misused, they produce inaccurate and misleading value judgments on quality between areas of knowledge that should not be compared, and produce perverse incentives that distract from a researcher or department's true mission. Distinguishing one result from the other requires a culture of responsible indicator use in the university. The Leiden Manifesto, and the San Francisco Declaration, among others, advise each university to define their own system of indicators embedded in a framework that can accommodate diversity and respect context.

The **suspension of physical mobility for research** has, on the one hand, restricted opportunities for internationalisation, but on the other opened the gateway for innovative solutions to overcome this working remotely, allowing the participation of new actors, and **new forms of working with a wider array of collaborators**. It has

opened the door to Brazilian researchers who would be otherwise unable to travel to meet colleagues in countries where the cost of travel is prohibitive; Asia and Oceania, for example. This reduction of cost barriers creates the possibility of creating a more multipolar research environment where financial resources for mobility is less of a determining factor in relationship building.

→ Concluding remarks

We argued that the combined health, economic, geopolitical and political crises confronting universities are at a time where the demands placed on it by society have never been higher, but neither has the opportunity to do good. The ability to communicate this to the public through international and local comparisons will be fundamental to ensure that the public understands not just what universities intend to do, but what they already do, and how they intend to achieve our ambitions. This will only be possible if higher education leaders focus on the values that tie our community together, and ensure that these values are embedded in the search for excellence.

This dialogue has been highly enriching in Brazil. Sharing experiences allows us to grow together and share solutions to the challenges we face. Because we share so many of these challenges, holding this dialogue across the continent would allow us to share solutions and future plans together, and build the new era.

→ Links to selected responses to 2020 crisis

ECLAC

<https://www.cepal.org/en/publications/45736-sectors-and-businesses-facing-covid-19-emergency-and-reactivation>

<https://www.cepal.org/en/topics/covid-19>

Monterrey Tech

<https://tec.mx/es/hyflex-plus>

<https://tec.mx/es/acciones-de-impacto-social/informacion-y-contencion>

<https://tecreview.tec.mx/apoyandotec-busca-salvar-a-empresarios-de-la-covid-19/>

<https://unidospodemos.tec.mx/>

Pontificia Universidad Católica de Chile

<https://www.uc.cl/uc-contra-el-coronavirus/>

<https://www.uc.cl/noticias/desafios-y-oportunidades-de-nuestra-nueva-vida-online/>

<https://www.uc.cl/uc-contra-el-coronavirus/aportes-uc/>

Universidad de los Andes (Col.)

<https://uniandes.edu.co/covid-19>

<https://uniandes.edu.co/es/noticias/salud-y-medicina/ha-cambiado-el-sistema-de-salud-de-colombia-por-el-covid19>

Universidad de Buenos Aires

<http://www.uba.ar/noticia/19959>
<http://www.uba.ar/noticia/19951>
<http://www.uba.ar/noticia/19953>

Universidad de Chile

<https://www.uchile.cl/covid19>
<https://www.uchile.cl/noticias/164882/humanizacion-muerte-digna-y-covid-19-el-trabajo-del-hcuch>

Universidade Estadual de Campinas

<https://www.unicamp.br/unicamp/coronavirus>
<https://www.funcamp.unicamp.br/portal/campanha/index.htm>
<https://www.unicamp.br/unicamp/noticias/2020/07/03/abrangencia-dos-diagnosticos-de-covid-19-realizados-pela-unicamp-chega-mais-de>

Universidad Nacional Autónoma de México

<https://covid19.ciga.unam.mx/>
https://covid19comisionunam.unamglobal.com/?page_id=83023
https://www.dgcs.unam.mx/boletin/bdboletin/2020_494.html

Universidad Nacional Mayor San Marcos

<https://sisbib.unmsm.edu.pe/archivocovid19peru/>

Universidade de São Paulo

<https://coronavirus.usp.br/>
<https://jornal.usp.br/universidade/usp-contra-a-covid-19-conheca-as-varias-acoes-da-universidade-para-ajudar-no-combate-a-pandemia/>
<https://www5.usp.br/uspvida/>
<https://jornal.usp.br/ciencias/pandemia-transforma-centro-cirurgico-do-hc-em-uti-e-anestesista-em-intensivista/>