Reducing the impact of COVID-19 on inequalities in higher education: A call for action to the international community

A Joint Communiqué of
the InterAcademy Partnership and the Global Young Academy

The ongoing COVID-19 pandemic has severely affected higher education systems across the world. In April 2020, the International Association of Universities (IAU) conducted a survey across 400 universities in over 100 countries to assess the impact of COVID-19. Over 97% indicated that the pandemic had impacted the way learning and teaching were conducted, including closures.[1] The inequalities that were already present in the system have been exacerbated by the pandemic and we believe this must serve as a catalyst for systemic change. The unfolding challenges and opportunities differentially affect students, instructors, administrators and institutions. **The COVID-19 pandemic has deepened inequalities in higher education by reducing flexibility and mobility, constraining access to resources, and limiting in-person development opportunities**. This communiqué highlights some of the most pressing challenges and opportunities for higher education systems globally surrounding inequalities. It concludes with recommendations to university administrators, policymakers, research funding agencies, and academies on priority actions to harness the lessons learnt during the pandemic to reduce the long-term impacts of COVID-19 on higher education systems.

Challenges in Higher Education

The pandemic has presented many hurdles for higher education, including the demand for a rapid shift to online learning and teaching, research interruptions, and mental health challenges. It has also exacerbated existing socio-economic inequalities and widened the gap between the resource-rich and the resource-limited. A large-scale study across more than 60 countries found that college students of certain demographics, including those from lower socio-economic groups and those from Africa and Asia, were less satisfied with their academic lives during the crisis.[2]

Alongside the resource disparities, there have been disproportionate impacts on historically disadvantaged groups (based on race, ethnicity, etc.), women and others with childcare responsibilities, and on the career prospects for early-career researchers. In many countries, female students and teachers, in particular, have reported taking on disproportionately more family responsibilities during the crisis, putting extra pressure on their academic lives.[3,4,5] Existing racial disparities may also be intensified. For example, even prior to the pandemic, South African students from higher socio-economic classes were more likely to be admitted to universities, and white students were more likely to succeed than black students.[6] These inequalities are felt across continents, regions, and localities[7,8] and cannot be fully understood without a deeper, intersectional analysis of the influence of dimensions such as race, ethnicity, and gender on the higher education experience.

Further, at the institutional level, university budgets, already inadequate, have been stretched to the breaking point during the crisis, resulting in a deepening of inequalities across education access and delivery, learning, and research. Key challenges include:

- **Reduction in flexibility and mobility**
Globally, most higher education systems have struggled to provide the needed training for faculty to move classes online[9], while a reduction in international mobility threatens student and faculty enrichment opportunities.[10,11] These restrictions bring new challenges, including implications for building new international research collaborations[12], sustaining visiting professor/scholar programmes[13], student exchange programmes[14], and international student admissions[15].

- **Interrupted research and career trajectories**

  Research activities have been threatened by restrictions in laboratories and the discontinuation of fieldwork, which have seriously impacted progress across disciplines.[16] These interruptions have resulted not only in delayed or missed scholarship and knowledge generation, but also in the loss of professional advancement and training for undergraduate, graduate, and postdoctoral researchers.[17] Meanwhile, financial difficulties faced by higher education institutions,[18] in addition to the loss of tuition fees from international students, have led to widespread reductions in the recruitment of postdocs and new faculty.[19] The threat of a lost generation of early-career scholars and progress in research and discovery is looming.[20,21,22]

- **Lack of access to fundamental learning resources**

  Online learning has become a necessity with lockdowns and social distancing measures prevalent across the world.[23] Computer and internet access are fundamental to learning in the pandemic context, yet according to UNESCO, 43% of households do not have access to the internet.[24] Access to technology such as smartphones and computers is more relevant than ever before to enable students to engage with online education. However, in regions such as Latin America and the Caribbean, taxes and tariffs on technology drive up the costs of hardware and limit access for those who cannot afford computers and other technology.[25] Higher education online delivery models should consider the primary connectivity and access to technology challenges affecting students and the barriers to solving them within each regional context.[26]

- **Meeting students' digital and learning needs**

  During the pandemic, 59% of 400 higher education institutions in the IAU survey responded that their institutions had closed completely.[27] The switch to remote learning requires increased responsibility and initiative by the student compared to a traditional face-to-face model and responses to online teaching have varied considerably.[28,29] In the United States, early results showed that progress in learning declined sharply during COVID-19 lockdowns, particularly in low-income communities.[30] In India, students indicated they had difficulty adapting to online instruction and staying engaged as they felt they would have performed better in the classroom.[31] Developing effective and engaging hybrid models (i.e., with some students participating online and others in-person) for teaching has been, and will remain a challenge for instructors and institutions.

- **Loss of human interaction from excess digitisation in education delivery**

  The online delivery of education may limit one-on-one or small group student-instructor and student-student interaction while also constraining mentorship opportunities. For example, two studies found that students most at risk of dropping out or not completing courses were more likely to do so when courses were online.[32,33] In Saudi Arabia, medical students noted that online learning could not replace in-person clinical training.[34] Higher education institutions must develop effective methods to address the lack of personalised interactions that are crucial for a student's development, mentorship, and learning.[35] The constraints of online education may especially impact students who are neurodivergent or have diverse learning needs.[36,37]

Though many of these challenges predate the pandemic, they have been exacerbated by it and will have detrimental effects on the long-term success and career prospects of students. The OECD predicts that if the situation continues, the impacts of reduced educational performance would result in at least 3% lower lifetime earning potential for students, with disadvantaged students likely to be more affected.[38] Higher education institutions should act now to prepare students for a COVID-19-impacted job market and maintain contact with graduates to provide professional development support services.

Without preparation to compete in the COVID-19 job market, these challenges in higher education further threaten the human capital prospects of students and their ability to flourish in the long term. At the institutional scale, if universities are unable to adapt to meet these challenges, they may risk being overtaken by for-profit, online education delivery platforms.[39] For-profit platforms are likely to be ill-equipped to promote inclusivity in educational access and design for the

world's most vulnerable, an integral role of higher education institutions as common goods.

Opportunities in Higher Education

Confronting these complex challenges provides unique opportunities to address inequalities and improve higher education for the future. Universities can learn from the pandemic to accelerate the transformation and adaptation of educational delivery models. This is an opportune time to override policies that perpetuate inequalities, and seek to address it. Four main opportunities become relevant to address the challenges:

- **Promote open education and collaboration:** As demonstrated by the resilience of education to proceed during the COVID-19 pandemic, a key opportunity is to expand open education, including building local capacity and adapting instruction to local contexts. As resources for online learning are limited in many institutions, providing access to high quality, diverse online courses from universities around the world can help mitigate some of the current flexibility and mobility limitations.[40]

  Lower-GDP countries that have suffered more from COVID-19 impacts have also been more likely to participate in networks that increased the "advancement of knowledge and open science".[41] As a result, there are opportunities for new collaboration models to advance both teaching and research, with perhaps greater emphasis on regional collaboration than before the pandemic.

- **Expand digital connectivity and access to technology:** There are also opportunities for rapidly increasing digital and communications technologies, including diffusion and access to these technologies in remote areas in low-income countries.[42] The COVID-19 pandemic has magnified the urgency of addressing connectivity gaps as barriers to education and has placed new pressure on governments to act.

- **Strengthen student-centred learning and education delivery:** With focused instructor training, course design and student assessment methods can be re-examined to focus more on student learning, and on the application of knowledge, rather than fact-regurgitation. Online education delivery can be improved by implementing evidence-based pedagogical practices that improve student uptake.[43] Students in Spain and Pakistan found that online learning provided greater opportunity for education to be student-centred, which in part came from more consistent study habits.[44,45] Increased training for instructors also results in more adaptability and widens the potential for access to credentialing and reskilling.[46]

- **Partner with local experts and grassroots organisations:** Each higher education institution is unique in its student demographics, policies, and larger societal context. To drive change, those working at the local level are most aware of the contextual challenges and opportunities present today and in the future. Partnering with local higher education actors such as merit-based academies, non-governmental organisations, and community groups with expertise to inform policy is important to ensure long-term sustainable change.[47]

In order to capitalise on these opportunities, an international effort is necessary to mitigate the potential long-term harms of the COVID-19 pandemic on the future of student and faculty training, their career prospects, and the sustainability of higher education institutions.

Conclusions

The actions that the international community, national governments, and localities take (or fail to take) in response to the pandemic will have profound effects on students and early-career scholars, particularly the most vulnerable, in the coming years. Based on the experiences of the current pandemic, we propose several actionable recommendations to address the inequalities in higher education while capitalising on opportunities in the COVID-era.

Recommendations

To promote open education and collaboration:

1. **Universities should work together via new or existing networks to promote collaboration and exchange open source ideas and software at the regional and global level.** Regional and global networks of higher education institutions and research collaborations are integral to mitigate reductions in research flexibility and mobility. Higher education institutions are in a prime position to capitalise on their existing networks or to form new ones, including institutions and countries that may not have had a reason to work together before, as interest in collaboration has increased.[48] The inclusivity of the digital world provides a platform for open source software to be shared and developed to support learning in all corners of the world.

2. **Higher education and research funders should help prevent a 'lost generation' of scholars through the provision of research grants, positions, mentorship, and other forms of support.** As an example, Africa to Patagonia: Voices of Displacement is a collaborative effort of 40 faculty and students from the United States and abroad to further humanities research. This online initiative has provided an opportunity for students to revive their interest and strengthen their employability despite the pandemic.[49] Other forms of support mechanisms are needed such as postdoctoral fellowships to support early-career researchers across disciplines and countries.

To expand digital connectivity and access to hardware:

3. **National governments should prioritise the expansion of internet access for all students and researchers.** Some countries are working with local communications companies to provide free or low-cost access to students, but these efforts must be accelerated and scaled up.[50] National governments should also partner with international agencies, where feasible and relevant, such as the UN Broadband Commission for Sustainable Development that is connecting Africa through widespread broadband access.[51] UNESCO's Global Education Coalition could also be a potential partner as it is working with telephone companies to provide free internet access or mobile phone data to students in countries throughout Africa and the Middle East.[52]

4. **International aid organisations should prioritise the education Sustainable Development Goals to expand access to technology and online learning.** International aid organisations can help promote free access to high-quality courses online and access to technology.[53] Through partnerships with local universities, UNESCO should expand access to vetted, high quality MOOCs while bridging the resource gap in areas where basic technology is unaffordable. Access to courses in STEM appear to be particularly limited and should be a priority.[54]

To strengthen student-centred learning:

5. **Universities and governments should prioritise quality education that is student-centred and guided by a vision for the long-term success of students.** When safe and feasible, facilitating personal interaction should be a priority. Governments should ensure valid credentialing of online education platforms that promote equity and do not further exacerbate inequalities of students who struggle to learn at home. Recent and soon-to-be graduates should also be further prepared by universities to ensure they are skilled for the workforce and the COVID-19 impacted job market. All teachers and faculty should be provided additional support and training in order to acclimate to new modes of teaching and adapt to the constantly changing work and research environment.

6. **Universities should review systems of assessment of students and researchers.** The pandemic has exacerbated inequalities between groups and utilising the same assessment models for all risks increasing these disparities. Rather, assessments of students and researchers should carefully consider how COVID-19 has affected them, particularly when considering vulnerable populations.

> **To incorporate relevant local expertise:**
>
> 7. **Senior and young academies should act proactively to advise policymakers on post-COVID-19 higher education policy reforms and investments at the national and regional levels.** National academy members have extensive local experience as researchers, instructors, and administrators, and collectively cover a broad range of disciplinary backgrounds. Senior and young academies, and their individual members, representing many of the most respected scholars in the world, can draw on this experience to help inform evidence-based higher education policies that promote equity in the provision of online learning as well as help identify opportunities for promising regional collaborations to mitigate local impacts.

This Communiqué was endorsed by the IAP Steering Committee and the GYA Executive Committee in March 2021

About the InterAcademy Partnership (IAP)

Under the umbrella of the InterAcademy Partnership (IAP), more than 140 national, regional and global member academies work together to support the vital role of science in seeking evidence-based solutions to the world's most challenging problems. In particular, IAP harnesses the expertise of the world's scientific, medical and engineering leaders to advance sound policies, improve public health, promote excellence in science education, and achieve other critical development goals.

IAP's four regional networks – AASSA, EASAC, IANAS, and NASAC – are responsible for managing and implementing many IAP-funded projects and help make IAP's work relevant around the world. For more information about IAP see www.interacademies.org and follow @IAPartnership on Twitter.

About the Global Young Academy (GYA)

The Global Young Academy gives a voice to young scientists around the world. The vision of the GYA is science for all; science for the future, and its mission is to give a voice to young scientists and researchers around the world. The GYA, founded in 2010, is an independent science academy of 200 outstanding early- to mid-career researchers from six continents who are selected from across disciplines based on their academic excellence and commitment to engage with society. GYA members serve five-year terms, and the GYA presently counts members and alumni from 86 countries. The GYA administrative office is publicly funded and hosted at the German National Academy of Sciences Leopoldina. The wide array of GYA activities are supported by a range of international public and private funders.

For more information about GYA see www.globalyoungacademy.net and follow @globalyacademy on Twitter.

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This Communiqué can be downloaded at www.interacademies.org/ COVID_education.

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