COVID-19 and higher education:
Today and tomorrow

Impact analysis, policy responses and recommendations

May 13, 2020

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Foreword, by Stefania Giannini, UNESCO Assistant Director General for Education

To say the least, we were not prepared for disruption of this magnitude. Almost overnight, schools and universities around the world closed their gates, affecting 1.57 billion students in 191 countries. This unprecedented situation has significantly impacted the lives of students, whether they are pursuing studies abroad or in their own country.

The closures implemented as a measure to contain the Covid-19 pandemic, have led to an accelerated deployment of distance education solutions to ensure pedagogical continuity. The obstacles are multiple, ranging from low connectivity and lack of online content aligned with national curricula to teachers unprepared for this 'new normal'.

Regardless of the level of education, the paramount danger is that learning inequalities will widen, marginalization will increase, and the most disadvantaged students will find themselves unable to pursue their studies.

Higher education is no exception, even if at this level, digital technology has had the most far-reaching impact over the past decades.

As the only United Nations agency with a mandate for higher education, our Organization is committed to producing knowledge that informs the decision-making processes nationally and at the institutional level.

This is the value of this Report, prepared by the UNESCO International Institute for Higher Education in Latin America and the Caribbean (UNESCO IESALC), the sole specialized institute of the United Nations system in this field.

While it focuses primarily on the Latin American and Caribbean region, the strategies and research findings apply more widely. The report highlights the immediate impacts of the pandemic on higher education, particularly on the most vulnerable students. While not immediately visible, the impacts on equity and quality are significant and will surface in the medium and long term.

The Report also reviews what actions governments and higher education institutions have taken to guarantee the right to higher education during the pandemic. It considers various scenarios and offers some recommendations on the reopening of institutions, highlighting the importance of initiating preparations at an early stage.

Finally, it addresses the challenges of the post-pandemic period, in terms of how to resume teaching and learning in a dramatically different context. The analysis and recommendations are mainly intended for policymakers at both the systemic and institutional level, to inform decision-making in the short, medium and long term.

This global crisis has triggered a reconceptualization of education provision at all levels. The intensive use of different technological platforms and resources to ensure learning continuity is the boldest experiment in educational technology - albeit unexpected and unplanned. We have to assess the results, have a better understanding of what is working and why, and use this to increase inclusion, innovation and cooperation in higher education.

If the UN's 2030 Agenda was already reshaping higher education programmes, the current crisis is a clarion call for universities to be the vanguard of change required to rebuild more resilient and cooperative foundations. This means public support for tertiary institutions to defend research and innovation; transdisciplinary approaches to address complexity; and wider knowledge sharing to unlock solutions.

Immediate recovery requires measures that are fair and transparent, to support students. From the start of the crisis, equity has been the guiding principle of UNESCO's response. We have facilitated a global policy dialogue to respond to a multiplicity of challenges surrounding teaching, learning, assessment and connectivity. More intensive international cooperation is the only way forward to find answers that are fair, inclusive and innovative. This is the aim of UNESCO's Covid-19 Global Education Coalition, bringing together 80 multilateral, civil society, academic, non-profit and private partners to support countries in deploying inclusive distance learning solutions.

No student should be left behind because of this crisis. I trust this report will be instrumental for all higher education stakeholders as they uphold this principle and translate it into significant actions. Higher education institutions house the talent and creativity the world needs to build more inclusive, resilient and sustainable futures. UNESCO is committed to protecting them through the recovery period and going forward, on the basis of human rights and societal responsibility.

Acknowledgments

UNESCO IESALC acknowledges its indebtedness to all these persons and their institutions.

In the current circumstances, where so many variables have yet to be defined, this document must be seen as one in permanent construction. UNESCO IESALC will update this document as new ideas and initiatives arise, to encourage knowledge sharing and international cooperation.

Executive Summary

This Report, prepared by the technical team of the UNESCO International Institute for Higher Education (IESALC), begins by highlighting the immediate impacts of the pandemic on the university higher education sector, both in terms of the individual actors and the institutions and system as a whole. Some impacts, which are not immediately visible, are nevertheless very significant, and will surface in the medium and long term. Secondly, it reviews those actions taken by governments and HEIs to guarantee the right to higher education during the pandemic. Finally, it considers various scenarios, and offers some observations and recommendations with regard to the reopening of HEIs, and highlights the importance of initiating preparations at the earliest.

The current impacts of the crisis on higher education are easily documented, but it is debatable which ones will leave their mark on the different actors in the medium and long term. The lack of references to similar crises in the past makes it difficult to predict what may happen in the immediate future.

For the students, the most immediate impact has naturally been that of the temporary cessation of face to face teaching at HEIs which has left them, particularly undergraduates and those who are about to finish upper secondary and aspire to enter higher education, in a completely new situation, without a clear idea of how long it will last, the immediate impacts on daily life, costs incurred and financial burdens and, of course, learning continuity and international mobility.

Teachers are also impacted significantly at the workplace and professionally. First, the fact that not all HEIs have strategies for the teaching continuity activity must be taken into account, and in this scenario, temporary contracts may be terminated. Also, the most evident impact on teachers is the expectation, if not the requirement, of the continuity of teaching activity, using a virtual modality.

Non-teaching staff constitute the most vulnerable sector in terms of the likely reduction in the number of jobs that private universities, for example, would have to effect in the face of possible financial curtailment due to the cancellation of fees or reduction in student enrollment.

It is clear that the temporary cessation globally of face- to- face activities has been a huge disruptor of the functions of HEIs. The impact of this disruption is highly variable and depends, first, on their ability to remain active in their academic activities and, second, on their financial sustainability.

In the event of a long duration of the cessation of face-to-face activities, that is, the equivalent of a quarter or more, it is most likely that there will be a decline in demand in the short term and a spike in the next academic year where fees are non-existent (for example, Argentina) or very affordable.

It is too early to estimate the future profile of the higher education offer. Probably, if the offer was entirely public, it would be easy to predict that the number of centers and programs would hardly decrease. However, public HEIs will reopen in an already full-blown economic recession and major cuts in public investment in education are expected, such as those experienced during the 2008 financial crisis. In the case of private HEIs, it is possible to anticipate crises that will lead to definitive closures.

In terms of policy responses, countries have tended to limit themselves to three areas:

 a) *administrative measures to safeguard the operation of the system;*

 b) *financial resources; and*

 c) *the provision of resources to continue training activities.*

From the very beginning, institutional responses have addressed different areas: the strictly health front, the adjustment of calendars, research and development contribution to mitigate the pandemic, the guarantee of continuity of teaching activities through distance education, biblioFigureic and technological resources, as well as socio-emotional support to the university community.

Although, at this point, the schedule for the reopening of HEIs may seem uncertain or indefinite, this is an opportunity to better plan the exit from the crisis, within an appropriate reference framework. For UNESCO, this reference framework should be based on the following principles:

1. ***Reaffirming the right to higher education for all within a framework of equal opportunities and non-discrimination as the first priority and,*** therefore, all policy decisions that affect the higher education sector directly or indirectly, should be guided by this right.

2. ***Leave no student behind,*** in line with the main objectives of the United Nations Sustainable Development Goals. The crisis impacts differently on different students, but it is undeniable that it deepens existing inequalities and generates new ones.

3. ***Review current regulatory frameworks and policies, to ensure structural measures that see education as a continuum*** where educational trajectories must be strengthened from early childhood to higher education and beyond, thus minimizing the fragility of the most vulnerable students in higher education.

4. ***Timely preparation for the resumption of face-to-face classes,*** avoiding having to rush and from the outset, clear communication to the entire academic community and administrative and academic security, so that teachers, administrative and service personnel, and students can place themselves in the new context knowing in advance the provisions, processes and mechanisms designed to resume teaching activities.

5. ***The resumption of face-to-face activities of HEIs should be seen as an opportunity to rethink and, to the extent possible, redesign the teaching and learning processes,*** taking advantage of the lessons that the intensive use of technology may have entailed, paying special attention to equity and inclusion.

6. ***Governments and HEIs should institute coordination mechanisms*** allowing for mutual advancement in developing greater resilience in the higher education sector in the face of future crises, whatever their nature may be. It is absolutely essential to involve students, and teaching and

non-teaching staff in designing the responses that emergency situations require.

In applying these principles, and within the context of progressive exit from the crisis, governments should:

1. ***Include higher education in the stimulus plans for economic and social recovery;***

2. ***Forge a national consensus for a strategy for fostering recovery and innovation in higher education;***

3. ***Provide a clear regulatory environment when reopening of classrooms that generates security; and***

4. ***Commit to international cooperation.***

For their part, HEIs should:

1. ***Anticipate a long-term closure, focus efforts on ensuring teaching continuity and guaranteeing equity, and provide governance mechanisms, monitoring, and efficient support;***

2. ***Design pedagogical tools to evaluate training and create mechanisms to support learning for disadvantaged students;***

3. ***Document the pedagogical changes introduced and their impacts;***

4. ***Learn from mistakes and scale up digitization, hybridization and ubiquitous learning; and***

5. ***Promote internal reflection on the renewal of the teaching and learning model.***

Introduction

Since its foundation, the university, like any other social institution, has had to confront devastating epidemics that have impacted on their daily operations. And they have survived and pursued their mission even with their doors closed. In 1665, Cambridge University closed due to the black plague epidemic that struck England. Isaac Newton had to return to Woolsthorpe Manor, his home. One day, sitting in the garden, he saw an apple fall and this inspired him to formulate his theory of universal gravitation. At least, this is what he told William Stukeley who included this anecdote in Newton's bioFigurey published after his death (Stukeley, 1752). The moral of this story is that, inasmuch as the doors of higher education institutions have to be closed, academic activities continue where there are souls committed to science and training, sometimes with surprising results. Incidentally, the University of Cambridge has now closed its doors in 2020, for the second time in its history.

Currently, the temporary closures of higher education institutions (HEIs) due to the COVID-19[1] pandemic is no longer news, because most countries have discontinued face-to-face teaching. UNESCO IESALC estimates, reflected in the figure below, show that the temporary closure affects approximately 23.4 million higher education students (ISCED 5, 6, 7 and 8) and 1.4 million teachers in Latin America and the Caribbean. This represents approximately more than 98% of the region's population of higher education students and teachers.

As Figure 1 shows, the suspension of face-to-face activities has been extremely rapid in the region. It began on March 12 in Colombia and Peru and, in a matter of six days, affected almost the entire population of higher education students and teachers in the region. By March 17, the figure of 21.7 million students and 1.3 million teachers affected by the temporary closures had already been reached.

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[1] Acronym of English *Coronavirus Disease 2019*.
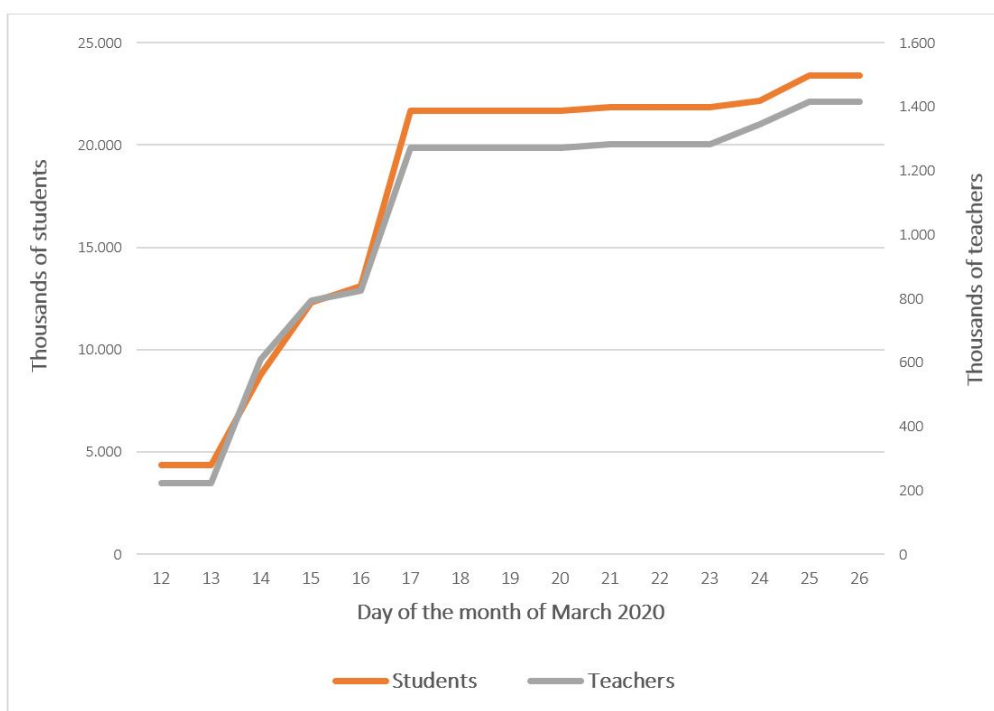
Figure 1. Estimate (in thousands) of the accumulated number of students (GiNi 5, 6, 7 and 8) and teachers affected by the suspension of face-to-face classes during the month of March 2020 in Latin America and the Caribbean

Source: UNESCO IESALC estimate

The decision to temporarily close HEIs was prompted by the principle that large gatherings of persons constitute a serious risk to safeguarding public health during a pandemic. HEIs and indeed all educational institutions tend to close their doors in situations where some form of isolation or quarantine has been legislated. In Europe today, all classroom activities have been suspended everywhere. In the United States, state authorities have mandated closure, but the vast majority of campuses had already closed, particularly those of large public and private universities had closed weeks before the government's intervention. As the pandemic spreads, which seems inevitable, the remaining countries will also institute mandatory measures to suspend face-to-face activities for all educational institutions.

In Latin America, isolation or quarantine measures were taken almost immediately and, in some cases, with a long-term perspective. For example, in Argentina the suspension of face-to-face classes was recommended on March 14; in Chile, full quarantine in some districts resulted in the massive closure of HEIs as of March 16; in Colombia, all HEIs were closed following the health emergency decree of March 12 which is expected to continue until May 30; in Cuba, HEIs were closed on March 25 for an indefinite period; in Peru, face-to-face classes were suspended on March 16 initially for 15 days but this has now been extended to 30 days; in El Salvador classes were suspended for 30 days until further notice on March 11; in Uruguay, the University of the Republic ordered the suspension of classroom activities on March 15 for almost 30 days; in Venezuela a state of emergency was proclaimed on March 13, initially for 30 days.

No one knows for sure how long these closures are likely to last. Initial measures taken by many governments have ranged from 15 to 30 days, but one can easily anticipate that they will be extended until the pandemic subsides. It is not unreasonable to imagine scenarios where this situation can last two months or more, or as in the case of Spain and Italy where the decision was announced not to resume face to face classes for the rest of the academic year which normally ends in June, although it is still possible that the university entrance exams (EBAU) will be carried out in Spain in a face-to-face manner.

While the impact of the pandemic on HEIs was abrupt and in the majority of cases there was no contingency plan other than to attempt to continue classes remotely, it is important that we start to consider a way out of this crisis, ensuring the highest degree possible of inclusion and equity. Indeed, one could say that the pandemic adds greater complexity to higher education globally but particularly in the region because of the still unresolved challenges it faced such as growth without quality assurance, inequities in access and achievement, and the progressive loss of public financing.

1. Predictable short, medium and long - term impact

In the absence of references to similar crises in the past, it is difficult to predict what may happen in the immediate future. Of course, it is easy to document current impacts, but not so for those that will impact on the different actors in the medium and long term. In an effort to facilitate an analysis, the real and estimated impacts for the different actors and for the systems as a whole, are presented below.

A. Students

What has had the most immediate impact has obviously been the temporary suspension of classroom activity at HEIs which has left students, particularly undergraduates and those finishing high school and aspiring to begin tertiary education, in a completely new situation without a clear idea of how long the impact will last, and feeling its immediate effect on their daily life, cost of living and other financial burdens and, naturally, on the continuation of their studies.

No data is yet available on what students believe are the main problems they face during the pandemic. Data from a recent survey of UNESCO Chairs around the globe provide an indication of these issues as perceived by the Chairs. The Figure below compares responses from the Ibero-American Chairs with those in the rest of the world.
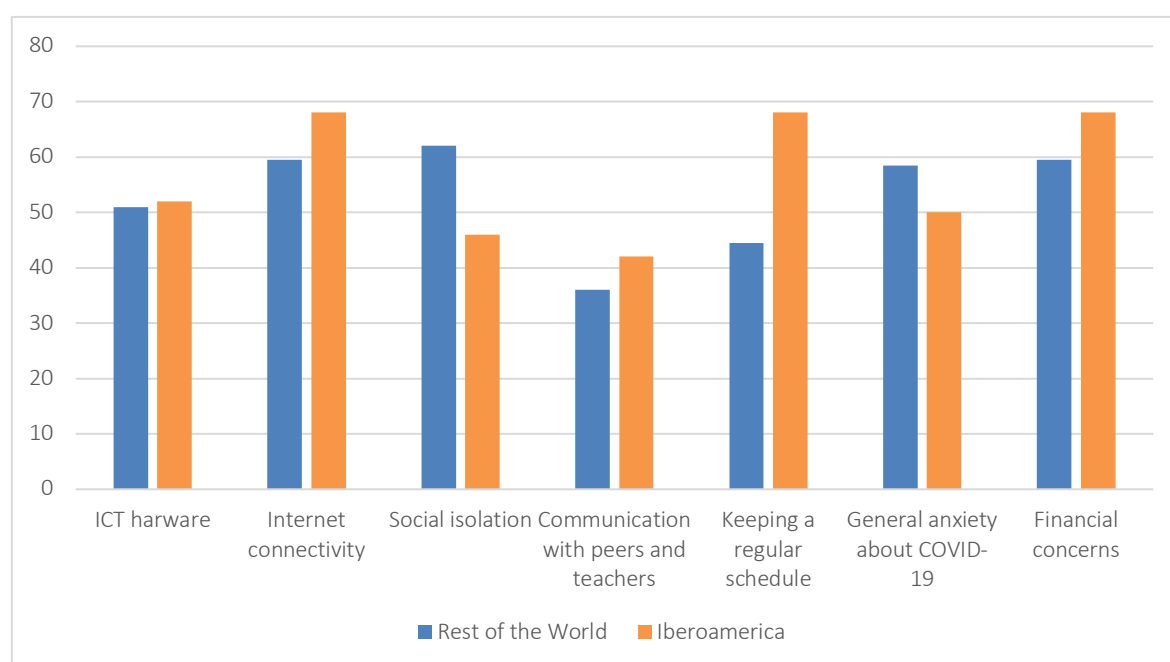
Figure 2. The main difficulties faced by students in higher education during the pandemic according to UNESCO Chairs

Source: UNESCO survey of UNITWIN Chairs (2020).

The results suggest that, globally, the main concerns are social isolation, financial issues, internet connectivity and, generally-speaking, pandemic-related anxiety. In Ibero America, however, the hierarchy of concerns is somewhat different, as UNESCO Chairs give, priority to three areas: internet connectivity, financial issues, and

difficulties in maintaining a regular schedule which may be associated with forms of teaching and learning at schools which do not encourage self-regulated learning.

The situation is particularly worrying for those higher education students who are more vulnerable on account of their more fragile condition. A disruption of their space brought on by a crisis such as this one, can exacerbate their fragile condition and force them to drop out, thereby yet again, perpetuating a situation of exclusion as a result of the inequity which is characteristic of the higher education system in the region. This inequity is reflected in the high dropout and non-completion rates in higher education: in Latin America, on average, only 50% of the those between 25 and 29 years who were enrolled did not complete their studies, either because they dropped out or because they are still studying. Of those who drop out, half of them do so in the first year of their career (Ferreyra, Avitabile, Botero Álvarez, Haimovich Paz, & Urzúa, 2017).

Moreover, it is difficult to have a sense of the multiple and different effects on students with different profiles, irrespective of their socioeconomic background, starting with gender[2].

Personal adjustment to daily life

Students have had to rearrange their daily lives to adjust to a situation of confinement. Most of the students who were displaced far from their families, but within the same country, have returned home. However, in the case of students abroad, the situation remains highly variable, with tens of thousands stranded in destination countries waiting for on-site activities to resume or because they are unable to return to their countries due to closure of airports and borders.

Inevitably, the loss of social contact and socialization routines which are part of the daily experience of a higher education student, will take its toll. The isolation that invariably comes with confinement will have an effect in terms of socio-emotional balance that will leave its mark, particularly on those students with pre-existing problems of this nature. The more vulnerable students participating in qualifying and remedial programs will be more affected by isolation. A survey conducted during the last week of March among higher education students in the United States shows, for example, that 75% of them have said that they have experienced anxiety and depression as a result of the crisis.

Financial costs and burdens

Students, and in many cases, their families will have to continue to bear the costs associated with their higher education. Except in the very few countries where fees are not charged, students must continue to pay the associated costs, particularly when, in order to pursue their higher education, they have had to seek temporary residence, whether individual or shared, in a place other than their domicile, at a cost they must continue to bear, even if they decide to return to their family home.

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[2] https://www.nature.com/articles/d41586-020-01135-9

More than 260,000 students have signed a formal petition to the English government requesting that a significant percentage of their paid tuition be returned to them. Students consider that the online teaching that is being proposed to them cannot be at the cost of the regular annual tuition, which is, on average, 9,250 pounds per year (USD 11,500).

A similar situation is the one experienced in South Korea, where the annual fees are much higher, the same for the larger HEIs in the United States, and even more for postgraduate studies. There are requests by students who paid USD 60,000 or more for an academic year and whose face-to-face classes have been suspended, that their tuition fees be returned to them. A recent survey[3] shows that 43% of MBA students from the 20 most prestigious business schools in the country insist that, with the change to online classes, they should get back at least a third of what they paid, largely because the provision consists of an exchange of knowledge and perspectives among participants and the creation of a professional network. Moreover, Forbes[4] estimates that the investment required for a year of study in one of these business schools can reach a quarter of a million dollars, inclusive of the opportunity cost.

Part of the reason for the request is the fact that many students have loans that they have to continue to pay and, in many cases, the rental of the room at the campus residence, which they must continue to pay, regardless of whether they continue to live there or not. There are some HEIs, like the one in Glasgow, however, which have already announced that they will not charge those students who have returned their keys, beyond the first month. Some English HEIs have proposed that rather than return the fees already paid, they will credit them to the next academic year.

Currently, there is no country in the region where a moratorium or a suspension of fees has been offered, largely based on the double assumption that this is only a short-term temporary situation and that, in any case, the continuity of the classes is guaranteed by alternative modalities. In many public universities, fees are paid in full at the beginning of the academic year, but in the case of private universities, particularly those with high fees, the payments are distributed throughout the year. There is no record, at the moment, of the suspension of these payments anywhere but certainly there is a growing trend to defer them, as the following Figure shows. Again, it becomes apparent that a deferral of payments is seen as more likely to happen by Iberoamerican UNESCO Chairs than the rest.

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[3] https://poetsandquants.com/2020/03/29/pq-survey-a-third-of-admits-may-defer-while-43-want-tuition-lowered-if-classes-are-online/
[4] https://www.forbes.com/sites/poetsandquants/2020/03/30/should-colleges-discount-tuition-because-of-the-shift-to-internet-classes/
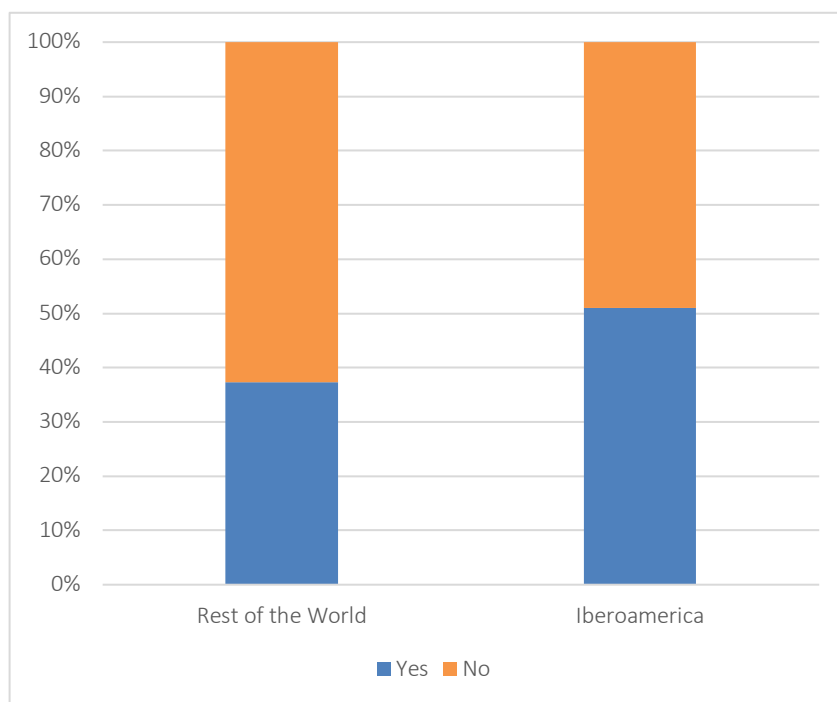
Figure 3. Whether the deferral of fees is happening or not according to UNESCO Chairs.

Source: UNESCO survey of UNITWIN Chairs (2020).

Similarly, no measures have been taken to favor the moratorium or temporary suspension of payments on students' loans and credit installments.

However, the two assumptions mentioned above, that of short - term and the continuation of teaching activities with a non-face-to-face modality, may be questioned if the duration of the cessation of face-to-face activities is prolonged to the equivalent of one academic term or even longer. In this eventuality, it is possible that voices will be raised, justifiably or not, in favor of suspending the academic year assessment, which is particularly dramatic in the case of students in final year high school, who are aspiring to enter higher education. If so, the implications in terms of financial burdens for those students who have loans or credits would ultimately mean that they will be required to extend their program for the equivalent of one more year. We do not know that this is equally feasible for all students and families.

For the moment, only delays have been announced because the long period of suspension of face-to-face classes is not yet anticipated, so it will be necessary to closely monitor the evolution of this situation, which is, for now, extremely uncertain.

Job prospects of new graduates

It is important to anticipate the situation in which the cohorts of students who will graduate in 2020 or even 2021 will find themselves having to face the payment of their loans and university credits, in a depressed labor market because of the crisis.

The job prospects of young graduates are uncertain. Workers under 25 are two and a half times more likely than those over 25 to work in sectors that have been closed down by the pandemic. So young people who are already in the labor market are

suffering even more than older workers[5]. But there is a group that may end up suffering even more, and that is the group of young people seeking to enter the labor market for the first time this year. This is a worrying time for students, and it will be a concern not only for this year, but also for future jobs and prospects of income. Given the current situation, those who graduate this year can expect to find it more difficult to find a job and even more difficult to find a well-paid job than their immediate predecessors, especially if the economy takes a long time to grow back, they can expect to earn less than they might have done for a considerable period of time. By the time they graduate, the labor market is likely to be substantially more difficult than in 2008-09, suggesting that employment and income prospects will be more affected. However, the speed at which it will recover is not yet known and the long-term experience of this cohort of graduates will depend on that speed of recovery. Moreover, the OEI forecast anticipates a considerable decline in the income of new graduates due to the crisis (Sanz, Sáinz, & Capilla, 2020).

The replacement of face-to-face classes

Students have also had to make an effort to adapt to what for many of them are new formulas for teaching and learning, when they have been fortunate enough to find a continuity offer. Continuity solutions options requiring connectivity is spreading globally amidst a reality of low connectivity in households in low- and middle- income countries. Figure 2 shows the percentage of households with an internet connection and then the low connectivity in the case of Africa and Latin America and the Caribbean, with as low as 17% and 45% respectively. In the case of Latin America and the Caribbean this means that only one in every two homes is connected.
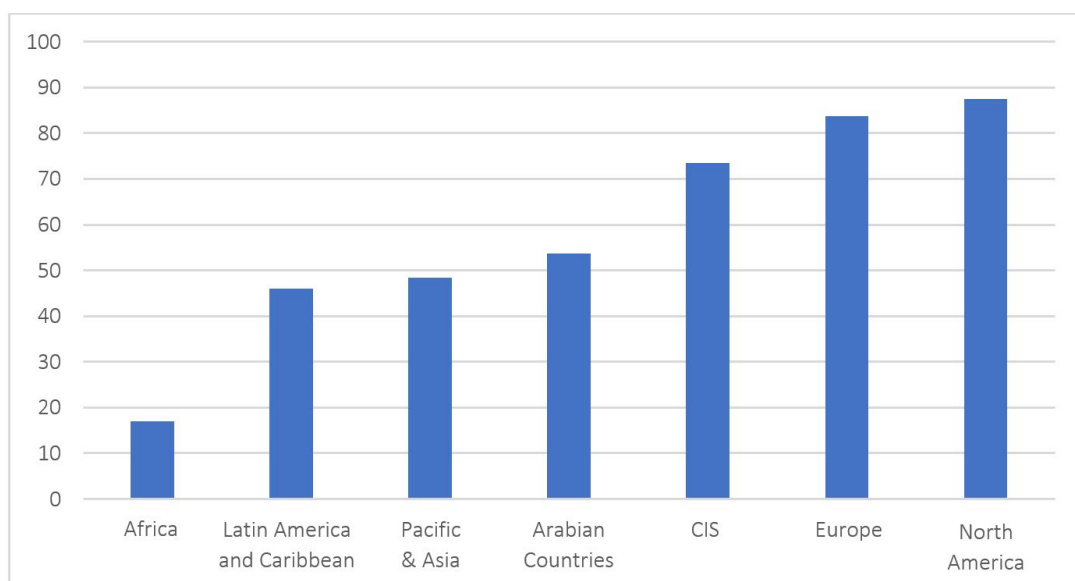
Figure 4. Percentage of households with internet connection by region (2018).
Source: Database of the International Telecommunication Union, 2020.

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[5] https://www.ifs.org.uk/publications/14816

Although we can assume that in households where there is a university student are more likely to have connectivity, it would be very risky to assume that all students have efficient connectivity in their homes. There is still a huge digital divide, so much so that the introduction of e-learning as a means of ensuring education continuity has been rejected by several student organizations in different African countries, for example, and they claim that it is an unaffordable, impractical and elitist solution[6]. Even in Spain it is estimated that between 3 - 20 percent of students do not have appropriate connectivity conditions and moreover, the HEI systems do not really have the capacity to estimate the number of simultaneous connections the pedagogical continuity system will require if it were to be used by most students[7].

Figure 5 paradoxically illustrates that, despite the fact that the rate of connectivity in households is very unequal in Latin America, with Chile and Bolivia being extreme cases, there is a very high ratio of mobile phones, in many cases more than one per person. This is, without a doubt, an opportunity that HEIs should take advantage of, and focus their efforts on technological solutions and content for use on mobile devices.
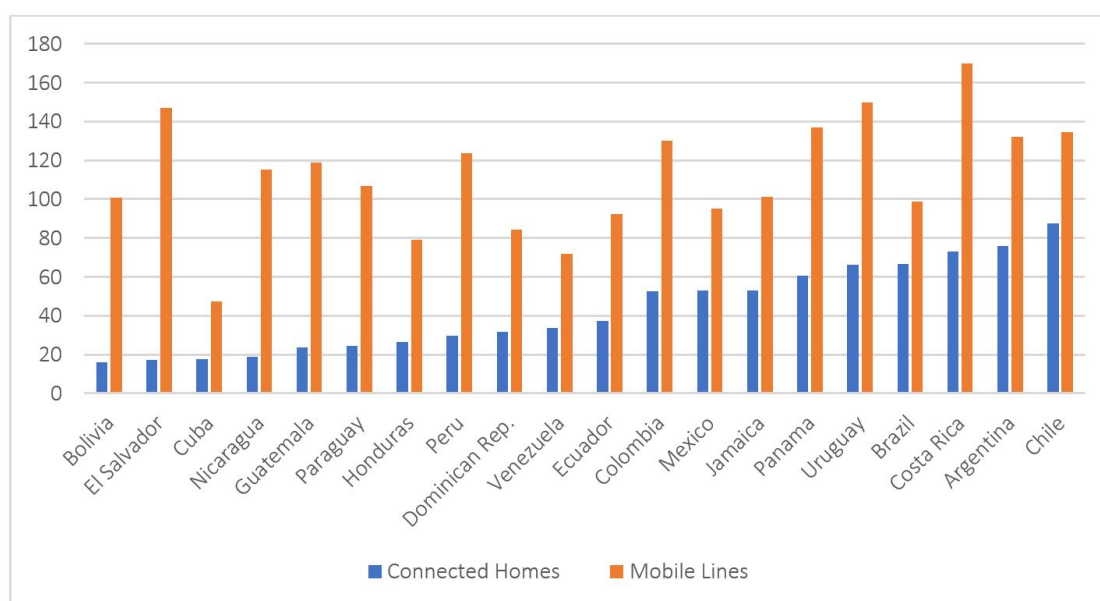
Figure 5. Percentage of households with internet connection and mobile phones per 100 inhabitants in a sample of countries in Latin America and the Caribbean (2018).
Source: Database of the International Telecommunication Union, 2020.

The traditional distance education mode, where the teacher continues to teach in a regular class setting that is broadcast live and can be retrieved at a later time, seems to be the most appreciated by students because this best reproduces the dynamics to which they are accustomed. Those initiatives which radically change operational

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[6] https://www.universityworldnews.com/post.php?story=20200422075107312
[7] https://elpais.com/sociedad/2020-04-14/a-3000-de-mis-estudiantes-les-esta-fallando-la-conectividad-de-forma-habitual.html

modes and require students to leave their comfort zone without any prior training are not appreciated as much because, for varying reasons, undergraduates tend to be more conservative than might be thought or be less prepared to change modes (Watts, 2016). On the other hand, the behavior of postgraduate students seems to be, in this sense, more open to participatory methodologies or that require a greater degree of interaction between themselves and the faculty.

In general, it does not seem that the change in modality has been received very positively. Part of the disaffection stems from the fact that the content offered was never designed within the framework of a distance higher education course, but rather tries to make up for the absence of face-to-face classes with virtual classes without further preparation. Secondly, the expectations of students are different if they expect to enroll, from the beginning, in a distance education course or in a regular course, with all the social and experiential elements that always accompany the face-to-face experience in an HEI. It should also be noted that distance education requires more discipline and commitment on the part of the student, which perhaps explains why it is more successful among older people, that is, postgraduates, compared to undergraduates. The face-to-face experience is particularly important for vulnerable students who have often had fewer opportunities for interaction in areas such as that offered by a university campus that allows them to strengthen their social skills, so that, if the closure is prolonged, they will be more disadvantaged than other students.

It is difficult to foresee what impacts the change of medium and long-term teaching and learning modality may have for students. In principle, if the traditional dynamics are reproduced through technological means, these impacts should not be very significant because the return to the classroom will be experienced as a return to normality, especially when formulas for continuous evaluation of online learning have been planned. But one must also consider that the experience may conclude in some cases with many doubts about the need to return completely to face-to-face without taking more advantage of the opportunities offered by technologies.

Of course, the million-dollar question is whether, assuming continuity of teaching activities, students will achieve the learning objectives designed for the course. The existing research leaves no room for doubt in this regard and confirms that, in principle, the results should be even, particularly if the duration is short (Yen, Lo, Lee, & Enriquez, 2018); but the variables involved are many and the contexts are very different to assume that this will be the case in all cases.

International mobility

Since January 2020, the spread of COVID-19 has affected the global travel of thousands of students. Since late February 2020, travel restrictions to various locations, including China, Iran, South Korea, and Italy, and later Argentina, Brazil[8], Spain, Panama, and Venezuela, to name but a few, have impeded the flow of international students, faculty and university staff around the world.

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[8] As of midnight 28 March 2020, Brazil barred all incoming flights to the country, due to the global spread of the Coronavirus.

In 2017, the Organization for Economic Cooperation and Development (OECD) estimated that more than 5.3 million students were studying outside the territories of which they were nationals, with China being the number one sender of students (928,000) globally. According to estimates by The Times Higher Education, when the impact of COVID-19 settles, we are likely to see some 80,000 fewer Chinese students entering the United States, 35,000 in the United Kingdom, and approximately 30,000 in Australia[9]. This differential will depend on the country in question, but for Australia, with 1,774,852 million students enrolled in higher education and 29% of them foreign (514,707)[10], the contingent of Chinese students represents 20% of budgetary income from Australian universities. It is calculated that for the three major recipient countries (Australia, the United States and the United Kingdom) COVID-19 will translate into billions of revenue losses and an incomparable crisis. Education is Australia's third largest source of income. In Latin America, where the reception of international students is very low (UNESCO IESALC, 2019), the economic losses will be marginal, by comparison.

Similarly, although on the reverse side, the Chinese government reported 81,562 African students in China in 2018, many of them attracted by generous government scholarships. About 5,000 are believed to have been in Wuhan at the time of the outbreak of the epidemic, as this city has a concentration of dozens of higher education establishments that offer highly regarded academic qualifications in Africa[11]. Although many students requested to be evacuated, Chinese authorities urged local embassies to tell their citizens not to seek to return home, in an effort to prevent further spread of the disease. Doesn't an epidemic situation require maximalist responses? Most likely yes, but the forced stay causes an internal breakdown with an impact on psychological security, which is why there will be students who give up on their interest in pursuing studies away from home, regardless of whether it is within the country or outside of it. The previous reference anticipates that many students will resign to continue their studies and academic stays interrupted not only by psychological affectations, but also by epidemiological restrictions, visas conditioned to the severity that the pandemic exhibits in their respective countries, to the limited offer of commercial flights, as well as for economic reasons since the support funds from their countries of origin have also been decreased or canceled. Last month, the American Council on Education projected that international enrollment would fall by 25% in the United States next year[12].

Interestingly, New Zealand and Canada have extended relief measures to international students rather than treating them differently from their nationals. However, the three major destinations for international students (United States, United Kingdom and China) do not yet provide financial support to foreign students at

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[9] "Global higher education set to count cost of coronavirus outbreak" *Times Higher Education*, March 8, 2020, https://www.timeshighereducation.com/news/global-higher-education-set-count-cost-coronavirus-outbreak.
[10] *Tertiary Education Quality and Standards Agency* (TEQSA)
[11] "African students stranded in coronavirus heartland plead with embassies" *The Guardian*, Feb 4, 2020, https://www.theguardian.com/world/2020/feb/04/african-students-stranded-in-wuhan-coronavirus.
[12] https://www.nytimes.com/2020/05/01/us/coronavirus-college-enrollment.html

the government level, although in the case of the United Kingdom[13] and the United States, some universities already provide some relief through emergency funds[14].

The ERASMUS Program, the banner of European academic mobility, also hints at significant impacts from COVID-19 as Europe becomes the new epicenter of the pandemic. Of the 800,000 students mobilized in the 2016/17 academic year, Spain ranked first as a recipient country (47,138), followed by Germany (34,922), the United Kingdom (31,362), France (30,145) and Italy (23,924)[15]. At the time of writing this report, all these countries are on health alert. As the pandemic continues its exponential course of spread, the higher education institutions consortium to the ERASMUS Program will remain closed and, consequently, academic mobility will remain below minimum (73% of outgoing mobility in the European Higher Education Area has been affected).[16]

In the United States, the impact of COVID-19 has been announced as brutal. Many of the country's most prestigious international universities are located at epicenters of the pandemic: Columbia University (New York), Princeton University (New Jersey), Stanford University (California), CalTech (California), and others. Being research and attraction poles par excellence for global academic mobility, their closure is a serious blow to incoming academic mobility in the United States - the first receiving country in the world. In fact, the US State Department has suspended visa application services, including student visas, at most of its embassies since the end of March, so it only provides services for its citizens and issues emergency visas at this time Three-quarters of HEIs in the United States have already reported a negative impact of student enrollments from China, which typically made up about 34% of international students in the country. A similar impact seems to have already taken place in Australia, Canada and New Zealand. Conversely, China's plans to become the top international destination for higher education students in a decade has also been questioned.

Latin America and the Caribbean, a geographic block in which more students are mobilized to other regions, particularly the United States and Europe, than those who move from other countries to this region, also faces major impacts from COVID-19. Numerically, the countries from which the largest contingents of students leave are, in order of magnitude, Brazil, Colombia, Mexico and Peru and the country that receives the largest number is Argentina (UNESCO IESALC, 2019).

The crisis will have great impact on the world economy and, inevitably, on inequalities. Consequently, any mobility decision will be made more conscientiously than in the past, especially in those cases that do not have public funding. It should be remembered that 95% of Chinese students studying abroad in 2012 did so with their own resources, while 48% of Mexican student mobility for the 2015-2016 period was

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[13] The UK Council for International Student Affairs has issued guidelines for foreign students in dealing with the pandemic by encouraging them, among other measures, to contact their respective education providers if they cannot afford to pay for their accommodation, tuition, living expenses, etc.

[14] https://thepienews.com/analysis/top-study-coronavirus-intl-students/

[15] https://ec.europa.eu/programmes/erasmus-plus/about/statistics_en

[16] According to a survey conducted by the European Association for International Education between February 19 and March 6, 2020, with a total of 805 responses.

financed by the respective families (Maldonado, Cortés, & Ibarra, 2016). At the same time, this crisis could increase the number of displaced populations in search of opportunities, an issue that will pose enormous additional challenges.

The global latency of the disease and the unknowns it still holds, the exhausted health systems in some countries, a questioned international cooperation, a global economy that seems to be chaotically globalizing and the extended closure of borders, augur for an international academic mobility that will remain strongly flat in the short term. Some expert voices have suggested that it will take a minimum of five years to return to pre-crisis levels of international mobility. However, it is highly likely that destinations will likewise change at least for Asian students, with Malaysia becoming the main focus, followed by South Korea and Singapore, privileging regional agreements.

On the other hand, it is not known how this health crisis will affect the forced and non-forced displacement of hundreds of thousands of people around the world, which will continue to put pressure on the States that must continue to seek solutions both to guarantee the right to education at all levels to these groups, as for a fair recognition of their studies, titles and diplomas. The UNESCO General Convention on Higher Education Qualifications (November 25, 2019) could help to partially alleviate this prognosis if its ratification by 20 countries is achieved promptly for its entry into force. It is the first United Nations world convention on higher education. It is an instrument that establishes universal principles for the recognition of degrees across borders that will facilitate the academic mobility of students, teachers, researchers, and learning at the international level, guaranteeing that academic achievements are equitably evaluated and recognized on the basis of solid quality assurance mechanisms that allow people to continue their studies and / or seek employment opportunities abroad. Regional agreements, including that of Latin America and the Caribbean, adopted on July 13, 2019 in Buenos Aires, will have similar application once they enter into force.

B. Faculty

Although the focus is always placed on the impacts on students, teachers also suffer significant impact at work and professionally.

Firstly, we must take into account that not all HEIs have continuity strategies for teaching activity and in this circumstance, temporary contracts may be terminated. In many countries, full-time university teaching is not common, and most teachers have part-time contracts. Also, the cessation of face-to-face teaching activity looms as a threat to those teachers whose contracts focus exclusively on teaching complementary classes, such as practical classes or seminars, and who are frequently part-time and considered an auxiliary or peripheral complement, if not included in students' options. Measures to protect economic activity, favoring, for example, mechanisms for the temporary regulation of employment, can be negotiated for a certain number of these contracts, both in the public and private sectors, which in principle, means temporary suspension. However, in the event that the situation continues, these suspensions could be long and, additionally, it is possible that the

upsurge in the use of the virtual modality could put the return to the previous situation at risk.

The most evident impact on teachers is the expectation, if not the requirement, that they continue to teach using the virtual modality. In theory, at least, virtual education is present in most large HEIs and it is difficult to find one that does not have a virtual campus and, within it, a virtual classroom for each subject, as an extension of the physical classroom. In practice, the ability of each teacher to continue teaching largely depends on their experience in that regard. We must also consider that those subjects which include the development of professional competences through practice (clinics, pedagogical residencies, design careers, engineering, science and generally all those heavily dependent on practical workshops, laboratory work or institutional practices) are a source of greater uncertainty, which will lead to a set of different impacts on the system of the individual university. Mathematics generally presents more difficulties in the virtual adaptation process.

There are many teachers who, not having previous experience in distance education and their institutions not having had enough time to train them adequately, have appropriated all the communication media at their disposal to develop what has been called Emergency Remote Teaching or, also, *Coronateaching* which has been defined as the process of "transforming the presential classes to a virtual mode, but without changing the curriculum or the methodology" [17]. This abrupt entry into a complex teaching modality, with multiple technological and pedagogical options, and with a steep learning curve, can result in sub-optimal results, frustration and overwhelm due to adaptation to an educational modality never before experienced without the corresponding training.

But the term *Coronateaching* is also used to refer to an emerging socio-educational phenomenon with psycho-affective implications for both teachers and students[18]. This would be something similar to a syndrome experienced by the teacher or student when feeling overwhelmed by receiving excessive information through educational platforms, mobile applications and email. To this can be added the frustration and helplessness derived from the limitations in connectivity or the lack of know-how for the operation of platforms and digital resources.

Teachers with significant experience in the field who gained, for example, through distance graduate programs and appropriate digital resources, probably do not have great difficulty in ensuring continuity and do not suffer from the *Coronateaching* syndrome. In any case, we must not ignore the fact that the learning curve for the efficient use of technology in distance higher education is very steep and requires external support in the technological and pedagogical fields. This is where teachers can see the difference between those HEIs that make tools and resources available to them, such as training courses, and those that do not.

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[17] https://www.latercera.com/tendencias/noticia/el-gran-test-de-las-clases-online/JOJOMO7S2BAB3FNRJYPPHGUZ3I/ and https://eluniversal.cl/contenido/11348/el-rol-clave-del-profesor-en-la-educacion-on-line-durante-la-crisis-sanitaria

[18] https://edumorfosis.blogspot.com/2020/04/el-corona-teaching.html

In Latin America and the Caribbean there is a large contingent of universities that have virtual education programs, with great variability in quality and also in completion rates. Other HEIs, located in more remote areas of the countries, do not have a broad-spectrum Internet service and even some do not even have basic connectivity services. Many students from rural areas in countries like Argentina, Bolivia, Colombia and Peru and who have returned to their homes, now find themselves with worse connectivity conditions than they had in their urban homes near the HEIs where they study. Moreover, the abrupt interruption of face-to-face activities created a dependence on a digital environment that many have had to get used to in a matter of days. This brought to the fore a disparate use of virtual education, in terms of the use of the different technological tools and supports (appropriate infrastructure, both in apps and platforms) necessary to maneuver distance learning processes mediated by technologies, as well as diverse access to connectivity (including the provision of servers appropriate for the required telematic workload and provision of the bandwidth necessary to connect) for the online learning - teaching process to flow effectively. This variability therefore has to be balanced with the risk that the digital divide may widen the academic gap.

Recent developments - especially in the cases of Argentina and Brazil - point to pressure from teacher unions to prevent or hinder the transition to online education, arguing that it does not have the same quality, but basically this has been due to the concern of the possible layoffs or reductions in salary benefits for their members. There are universities, for example one in Buenos Aires, which have officially announced that although they will do their best to offer online resources, their choice will be to subsequently reprogram the face-to-face offer.

The closure of universities has accelerated an abrupt entry - as the UNESCO[19] Director-General has pointed out - into a new era of learning. The demand for the almost immediate digital transformation of HEIs not only requires the incorporation of technologies, but also requires the creation or modification of processes and the availability of people with the appropriate capacities and skills to develop said processes and technologies. However, since there was no more time to prepare these conditions, teachers have been challenged to find the creative and innovative resolve to act and learn on the go, demonstrating adaptability and flexibility in the contents and designs of the courses for learning in the different training areas.

Along with the teaching activity, which is now the source of a great deal of tension, there are those teaching staff who also have very important research tasks and some who manage university outreach. Both these tasks have been suspended. In the case of research, only bibliographic research (desk research) can have some continuity.

C. Non-teaching staff

The situation of non-teaching staff, in administration and services, is equally risky when their main tasks are not considered critical to the continuity of teaching. Thus, for example, the personnel linked to technical and computer support belong to the critical category, different to the personnel who work in canteens, dining rooms or

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[19] https://youtu.be/St_BQRSXmew

cleaning services. In all these cases, it will be the measures taken by the governments in terms of employment and social protection that will set the tone. It is also the most vulnerable sector in terms of the possible reduction of jobs that private universities, for example, would have to implement in the face of possible financial stringency due to the cancellation of fees or reduction of student enrollment.

D. Higher education institutions

It seems clear that throughout the world the temporary cessation of the face-to-face activities of HEIs has been a huge disruptor of their functioning. The impact of this disruption is highly variable and depends, firstly, on their ability to remain active in their academic activities and, secondly, on their financial sustainability.

The efforts made to continue teaching courses in virtual mode have been notable everywhere and, given the lack of experience with similar situations in the past, the transfer has not been easy. HEIs also may or may not have sufficiently mature virtual education systems and, even in the best-case scenario, it is difficult to think that they can be scaled-up to the necessary dimensions without the intervention of external technical supports such as video servers, for example. In short, it is one thing to have the necessary technological and technical infrastructure to support virtual courses for a relatively significant percentage of graduate students. It is quite another, much different, to provide the technical and technological needs for generally all courses for all students in a timeframe that, in many cases, has been less than a week. The effort made is clearly titanic.

However, alongside the vector of change in training modality, there is also the vector of financial sustainability. A large number of public HEIs depend - although to a lesser extent than private ones - on partial contributions from students. A case in point is that of Chile, Colombia, Peru and most of the public universities in Mexico. This implies that many of these universities, even if they are public, would face serious financial difficulties. Cash flows may not be enough, creating cash flow problems and, perhaps even financial survival, particularly in the case of private HEIs which cannot open in a quarter. This can be especially critical for small or medium-sized private universities that cannot guarantee continuity of training in virtual mode. In these cases, if the situation continues, it is very likely that, by failing to offer teaching, they will have to temporarily suspend the collection of fees. In such a context, it is also possible that larger private HEIs attempt to capture these now orphaned students. In this scenario, many HEIs may need to close.

E. The system

Higher education systems, as a whole, have reacted in a solidary manner and practically at a global level, have acted uniformly: they have continued teaching using pedagogical modalities that do not require physical attendance. The doubts arise when one begins to hypothesize about the likelihood of the prolonged duration of this exceptional situation. Should this be the case, the effects on the system will be multiple. These are addressed in the next section from a demand and supply perspective and take into account the additional challenges for governance.

On the Demand side

In the event of the extended duration of the cessation of face-to-face activities, that is, the equivalent of a quarter or more, it is most likely that there will be a reduction in demand in the short term and a spike in the next academic year where fees are non-existent (as in Argentina) or very affordable.

In the short term, there will be a number of students who will no longer return to classrooms and whose percentage is difficult to estimate. In the United States, it has been calculated, from a survey of undergraduate students[20], that one in six students will not return to campus when face-to-face activities are resumed, but also that four out of ten will continue taking distance higher education courses.

The reasons behind short-term withdrawal are multiple. The first and most fundamental will be of an economic nature, since the exit from the health crisis and its financial implications will result in higher unemployment rates and many families will be impoverished. There are many reasons for the short-term decline in demand for higher education. The first and most fundamental will be economic, since the exit from the health crisis and its financial consequences will generate higher unemployment rates and many families will become poorer. Perhaps the most important question about this pandemic - particularly in the upcoming phases - is how the interruption of the academic year and the impact on student experience will prejudice retention and continuity rates, particularly among at-risk populations. This includes low-income students, women, under-represented ethnic or minority groups, rural students, as well as those with mental health and learning disabilities or physical impairments. Students who risked leaving home initially, who cannot remain academically active or are falling behind their classmates with better connectivity or who were employed at or near school and have had to take on new jobs in new locations, will all find it difficult to uproot themselves again and return to school when the restrictions of the pandemic are lifted. For vulnerable groups, the sacrifices and compensations needed to achieve enrolment in tertiary education initially may not be sustainable in the wake of the personal and financial shocks that the pandemic is causing. It is imperative that institutions and government leaders commit to supporting these at-risk students and finding ways for them to continue their studies. Otherwise, they risk becoming secondary victims of the pandemic and its consequences.

Additionally, it is very possible that a phenomenon of disaffection occurs with regard to HEIs. In other words, students who have not had an offer of continuity, not only of quality but with individualized follow-up, will probably disengage themselves from the academic cycle and increase their risk of dropping out. It is a well-documented phenomenon throughout decades of distance higher education (Cohen, 2017). The only remedial action is individualized monitoring, which is probably not in the hands of all HEIs nor of all teachers. This monitoring is particularly important in the case of

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[20] https://www.artsci.com/studentpoll-covid19

the most vulnerable students for whom this can make the difference between continuing their studies or abandoning them.

However, in the medium term, it is most likely that there will be a rebound in the demand for higher education that would be felt strongly starting the next academic year. The causes of this rebound are fundamentally exogenous to the sector and have to do with the phenomenon of seeking refuge in a context of economic depression. Many young people will request access to or return to higher education, particularly in cases where fees are low or non-existent, thus trying to position themselves in the face of the economic recession and the increase in unemployment, which will most likely be phenomena they will have to face in the coming years. Some HEIs have already seen an opportunity here and are offering their distance graduate courses at much lower prices than usual to stimulate demand, capturing the attention of new students. It remains to be seen what these students' behavior once normality returns will be.

It is foreseeable that part of this increase in demand, especially by those seeking re-qualification, will go in the direction of distance education which has been experiencing significant growth in the region for years. Specifically, the spread in this modality has risen 73% since 2010, while that of face-to-face is only 27%. In 2010, almost 2.5 million of the 21 million first-degree university students in the region registered for distance education, representing 11.7% of the total. In 2017, this teaching modality accounted for 15.3% of the total and was accessed by 4 million three hundred thousand students. However, the penetration of this modality is still incipient and is extremely disparate among the countries of the region, due to both the economic and social inequalities that affect access and permanence, and the digital divide, that is, unequal access to ICTs. In the region, Brazil is the country with the highest participation in distance learning in the undergrad degree in higher education. In 2017, 21.2% of enrollment was for face-to-face education, up from 14.7% in 2010. This form of teaching has also gained ground in Colombia, Spain and Mexico, where in 2017 it comprised between 18% and 14% of the students[21].

On the Supply side

It is too early to estimate what behavior the higher education offer will have. Probably, if the entire offer were public, it would be easy to predict that the number of centers and programs would hardly decrease. Public HEIs will be reopening in a context of already full economic recession and it is to be expected that significant cuts will be made in public investment in education, such as those experienced during the 2008 financial crisis in many countries. In fact, the social spending commitments made in the management of the pandemic crisis together with the decrease in tax revenues as a result of the reduction of economic activity, will force the reconsideration of some items of public spending. Although many countries may want to react not with adjustment policies, but rather with stimulus packages, their financial capacity is likely to be limited for a certain time. The extent to which all or

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[21] Informe de Coyuntura nº6 del Observatorio de Ciencia, Tecnología y Sociedad de la OEI.

part of higher education activity is viewed as an opportunity to stimulate economic growth remains to be seen.

However, in many countries, the offer is mixed, public and private, and within it, there is profit and non-profit. In the same way that it is easy to see that in the case of the public offer there will be no changes in the number of HEIs, it is most likely that the private, for-profit and low-quality offer will have difficulty subsisting and will be doomed to a movement of consolidation and, consequently, of reduction of their number in the short term, unless they offer drastic reductions in fees. Competition among institutions will be exacerbated and, in fact, is already beginning to be seen in some countries. In Colombia, the announcements of a decrease of 10, 15, 20, 25 or more percent in enrollment for the next semester do not seem to be the best solution either, while the pressure is also increasing with students criticizing the measures and rejecting the efforts of the HEIs, asking for a considerable reduction in fees on the assumption that enrollment in the face-to-face programs that were compulsorily switched to virtual programs should be much cheaper, the negative result of the lack of debate in the system about what virtuality is. On the contrary, in the medium term, the upturn in demand may lead to new growth in this type of offer as well. For private HEIs, higher quality entails higher costs and this can make them more vulnerable.

It is to be expected that there will be changes in the offer in terms of the teaching modality and that many universities that lacked distance-taught degrees decide to amortize the effort they are now making to expand their capacity to offer online programs.

Governance

Although the concept of a governance network is not new and its original meaning has little to do with the technological aspects (Dal Molin & Masella, 2016), confinement and quarantine have led to the emergence, due to the circumstances, of communication modalities policies that are probably more in line with the 21st century. Non-face-to-face governance mechanisms are also emerging that have great potential to become permanent governance formulas that are much more agile and efficient, thanks to technology.

To begin with, being forced to experiment with new forms of communication and governance has shown that the number of physical meetings can be drastically reduced without affecting the quality of decisions or being able to reach consensus among the different actors. Also, it is clear that the circulation of documents can be perfectly limited to digital circuits, also reducing the need for printing. In both cases, the direct economic savings, including the reduction in the number of trips and environmental impact, are clearly not negligible.

Outside of these two examples, are there other modifications that can promote agility and efficiency, resulting from experimentation forced by circumstances? Will changes in formats have an impact on governance mechanisms in the higher education sector?

2. Public policies and institutional responses

Once the decision has been taken to temporarily suspend classes, there is room for the development of public policies to assist all actors in facilitating the continuity of academic activity. In this section, we will first analyze what other measures have been taken to preserve the right to education and, second, how HEIs have created institutional responses to continue their educational activity despite their closure.

A. Public policies

One of the characteristic difficulties facing the higher education sector with regard to the development of public policies is that, with few exceptions, HEIs enjoy high levels of autonomy. In some countries, this is enshrined in the corresponding Constitution. For this reason, some countries where there is a federal government system such as Argentina, and where at the state level, there are also higher education competencies, in a situation where confinement provisions have not entered into force, not much can be done beyond establishing a series of recommendations. In other cases, such as in Brazil or Mexico, they have opted not to go further. Moreover, the exceptional nature of the crisis has also led to some proposals which would be totally impossible under normal conditions. For this reason, the New Zealand Parliament, in order to combat the crisis, decided that the government would take control of all schools and universities in the country, a decision intended to facilitate urgent decision-making in the face of the emergency four- week closure of these institutions. Their Minister of Education was assigned emergency powers to issue orders deemed appropriate, including those in relation to the change of teaching modality.

Under normal conditions, the sector's public policies require concerted mechanisms which depend on broad consensus that generally require time to achieve. This characteristic of the sector probably explains why it has been so difficult for countries to develop national contingency plans. However, it must be recognized that in almost all countries, these concerted efforts have been very well - received by university councils and HEI networks, both public and private. Both have actively participated in the configuration of coordination committees to assist with identifying the needs of HEIs to be able to ensure teaching continuity, share and update information and reach consensus on policy responses through ongoing consultation.

In fact, practically all countries have produced recommendations and guidelines for HEIs, some primarily geared to supporting the transition to a virtual mode, applying pedagogical criteria, as in the case of Peru. Chile, however, is the only country which has developed a comprehensive national action plan to deal with the consequences of COVID-19 in higher education. It presents various lines of action that cover aspects related to technological and pedagogical support, including financial assistance, basically with scholarship students in mind.

With the exception for the time being of Chile, countries have tended to limit themselves to three areas: a) administrative measures to safeguard the operation of the system; b) financial resources; and c) the availability of resources to give continuity to the training activities.

Administrative measures

Generally speaking, governments with the capacity to do so, have endeavored to take administrative measures to safeguard the operation of the system, for example, the modification of the matriculation or examination calendars and the facilitation of the reprogramming of either the accreditation procedures underway or quality assurance.

The effects on academic calendars are already being felt worldwide: the International Baccalaureate (IB) exams have been canceled for the first time in history; the March and May exams for the SAT, the benchmark test for access to many HEIs in the United States, administered by the US College Board, have also been canceled - it remains to be seen what will happen with the application call in June. China has canceled the SAT, TOEFL, GRE and GMAT exams taken locally. Other countries, mainly in Asia so far, which have postponed their exams for access to higher education until July are China with almost 11 million students being affected, South Korea, Indonesia and Hong Kong.

In Latin America, the changes are equally substantial. In Ecuador, the publication of the allocation of quotas to the different HEIs has been suspended for the time being, to prevent students from going to Internet cafes to check their results. In Colombia and Paraguay, where distance higher education regulations require prior accreditation in order to operate, the decision was immediately taken to authorize the temporary change of modality during the closure of HEIs, so that the courses can now be taught remotely without the need for further administrative procedures.

In some countries such as Italy, the policy of a general pass has already been adopted, considering it a lesser evil, while in Spain, baccalaureate exams that allow access to universities, are maintained. At the institutional level, Oxford University has also opted for the same solution.

Financial resources

In the United States, a Higher Education Emergency Assistance Fund has been created, as part of the 3 trillion-dollar stimulus package to the economy, incorporating 14.5 billion dollars (approximately half of the total contribution to education which is 30.75 billion). Despite the seemingly significant figure, the sector has responded with criticism, arguing that it will only cover the most immediate needs in the short term, and does not contemplate the medium term. The sector requested 50 billion, 90% of which will go directly to those HEIs with high percentages of scholarship students (Pell Grants) with low socioeconomic backgrounds. In this regard, the Coronavirus Aid, Relief, and Economic Security (CARES) Act temporarily suspends monthly payments (technically "administrative forbearance") on all Department of Education loans from March until September. The suspension will be automatic; borrowers do not have to apply, although individuals may still choose to make monthly payments. For delinquent borrowers, the law suspends involuntary collection of payments through wage garnishment and confiscation of tax refunds until the end of September. The law also sets the interest rate at zero percent during

this time period. For the time being, the debt has not been forgiven, although this is being demanded by many.

Australia is taking a different approach. Some 230,000 students there will receive direct aid as part of the stimulus package of 40 billion US dollars launched by the federal government. These grants will serve to at least partially compensate for the loss of direct income from part-time jobs of many students in the country.

In Norway, where part-time jobs are also very common, the government has decided to advance transfers to students with loans but has not forgiven debts nor offered loans at no financial cost.

The German Council of Rectors has requested the creation of an Emergency Fund for students, particularly the 100,000 international students who worked part-time. Transition financial support was also requested for all students.

Chile is the only country in the region, at the moment, where financial provisions have been made to meet, first of all, the needs of students who have some type of scholarship or financial support and who, with the cancellation of face-to-face activities, could find themselves in a difficult situation since their benefits hinge on their registration and attendance at the corresponding HEI. Secondly, Chile has also redirected public funds already available for strengthening state university systems (to the tune of 30,000 million pesos) to promote the creation of a state distance education network, at the same time encouraging innovative projects by allocating complementary funds representing an additional one third (10,000 million pesos).

In Argentina, the "suspension" or "dispensation" (both terms used indistinctly in various regulations) of the duty of being at university premises was established to carry out, as much as possible, academic tasks from home. This enabled the entire education system to virtualize education. All Argentine universities began virtualization, some later (University of Buenos Aires, for example) than others.

Support for teaching continuity

The fundamental guiding principle of government education policies has been to do everything possible to guarantee the continuity of teaching activity, which has resulted in different initiatives on three different fronts: platforms, teacher training and digital content.

The primary and most significant area of initiatives has been to favor the implementation of emergency technological solutions for teaching continuity. Basically, attention has focused on making available to HEIs that lack their own virtual education platforms, the technological mechanisms and resources for teaching distance courses, thereby guaranteeing minimal platform infrastructure. This has been the case for example, of Argentina, Brazil or Chile. While Chile has free access to the Google Classroom platform thanks to a commercial agreement with this company, Brazil, taking into consideration the approximately 19,000 university students at HEIs which do not have their own platform, has chosen to expand the capacity of its *National Rede do Ensino e Pesquisa* (RNEP) to increase the offer of classes by videoconference to federal universities and institutes. In fact, this capacity

has been increased by 50% and now allows simultaneous access of up to 10,000 persons to the platform, representing a total of 123,000 students.

Some figures are indicative of the volume of activity that some HEIs are developing in distance education. For example, at the University of Sao Paulo (USP), 12,000 videoconferences per day are held on Google Meet, 210 thesis defenses and 170 postgraduate degrees. There are 45,000 accesses per day, on average, to e-Disciplines (the distance learning environment) and 11,000 to e-Aulas (a repository of educational videos), two platforms that have complementary functions within USP.

It is important to highlight the practical absence of reference to other distance education means whose effectiveness is well proven, such as radio and television (Laaser & Toloza, 2017; Xiao, 2018). The only country where the government has recalled the importance of these means has been Mexico, for the moment, which is a country with a long tradition in this area, particularly through *Telesecundaria*. In other regions, particularly in Africa, the use of television has been considered from the outset; in Morocco, for example, the popular sports channel *Arryadiaya* began broadcasting university classes on March 25.

The second crucial element to guarantee the continuity of the teaching activity is the teachers' own competences to operate in virtual environments of high technological complexity, for which they are not - nor did they have to be - necessarily prepared. In Peru, the government has suggested precise guidelines for action to public universities, based on the recommendation to start developing a situational analysis or institutional capacity. Some countries, such as Argentina through the National Institute for Teacher Training, have accompanied the measures aimed at technological support, with the necessary support in the development of teaching capacities for virtual education. The University of the Republic (Uruguay) has done the same to promote the best use of the virtual training environment (EVA). Unfortunately, these initiatives have not been widely replicated in other countries. In Chile, the government has chosen to facilitate the creation of an alliance, supported by nine public and private universities, to disseminate good practices and offer, at the same time, support in teacher training to the other universities that request it through a device managed by the Ministry of Education.

Finally, the third element is the didactic content. As discussed below, HEIs also start from very different situations in this area. Although the majority of the solutions adopted seem aimed at favoring classes by videoconference, HEIs that have their own platforms have the advantage of having an important collection of digital teaching resources whose availability and quality can be critical. Although it would seem logical that these resources, in a crisis situation, should be pooled and that governments would generate, if not incentives, at least the opportunities to do so, the truth is that only Chile and Mexico have advanced in this possibility. The latter country, in particular, has proposed that the National Open and Distance University become a national repository. For its part, the Ministry of Universities of Spain, in collaboration with UNED and the UOC, has created a platform (Connected: the home university),

with resources for non-classroom learning and guides to support teachers in the migration process from face-to-face model to online mode[22].

B. Institutional responses

The crisis has unfurled so quickly that it is difficult to access data that gives an idea of the multiple responses of HEIs. The results of a survey of the directors and presidents of 172 US HEIs on the impacts of COVID-19[23] conducted between March 17 and 19 show that for 9 out of 10 institutions the main immediate concern is the socio-emotional health and well - being of students and workers, teachers and non-teachers. However, only 2 out of 10 state that they have implemented specific measures in this area.

The change in modality is not without great concern on the part of university leaders, with eight out of ten convinced that retaining students to follow online courses is extremely problematic. This could translate into losing students who will no longer return to HEIs when they reopen. The case of Chile is particularly complex as the country was experiencing a political and social crisis and student protests that, by the end of 2019, had hindered the process of entry into higher education for the 2020 cohort. Figures from the Ministry of Education report that at least 20,000 university vacancies were not used by applicants. This, coupled with the fact that the university system is funded primarily by student and family contributions, could threaten the sustainability of some institutions.

Other areas of concern include student access to the requisite technologies and platforms (76%) and the institutions' own real capacity, in technological and pedagogical terms, to offer quality online education (75%). Many rectors and presidents admit that the change in modality was the result of an unforeseeable emergency situation and that they should start to plan for online teaching in the next term with greater pedagogical support and resources, anticipating that the duration of the crisis will extend beyond the term.

From the beginning, institutional responses have covered different areas: the strictly health front, the adjustment of calendars, the research and development contribution to mitigate the pandemic, the guarantee of continuity of training activities through distance education, bibliographic and technological resources support, and also socio-emotional support to the university community. The responses in each of these areas are discussed below.

The health front

Most HEIs took exemplary measures from the outset to safeguard health on campus and in buildings. These measures included information campaigns, reduced mobility and, in many cases, the progressive cancellation of events and meetings. However, the effectiveness of these measures was soon overtaken by the events that forced

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[22] https://www.uned.es/universidad/inicio/uned_uoc_solidaria.html
[23] https://www.insidehighered.com/booklet/responding-covid-19-crisis-survey-college-and-university-presidents

the suspension of all face-to-face activities practically a week after the first cases of infection were detected. However, there are some exceptions, particularly for administrative or non-academic personnel whose activities are critical to the baseline operation of HEIs and which cannot always be carried out from confinement at home.

Special mention should be made of the medical, nursing and pharmacy faculties and schools, particularly those linked to university clinics and hospitals that, from the outset, far from canceling their activities, have been placed at the service of the public health authorities in all countries. The Universidad del Valle de Colombia has made a questionnaire available to its students and all staff to report their symptoms of COVID-19 to the University Health Service and to provide them with the health care required in each case. The Complutense University of Madrid has made its laboratories and specialized personnel available for PCR tests. Sometimes this has been done from an innovative perspective, as has been the case with the hackathon, a meeting of programmers whose objective is the collaborative development of software, organized by the National University of Córdoba (Argentina) to collect possible responses to challenges of all kinds raised by the pandemic. Similar initiatives have also been the subject of national calls as, for example, in Bolivia. In Chile, the government, through the Ministry of the Interior, convened a Covid-19 Social Committee, comprising teams from the government, municipalities, the representative of WHO Chile, the Medical Association and the Rectors of the University of Chile and the Catholic University, both of whom are doctors. The Catholic University, for its part, and within the framework of the work of the Committee, is working on the design of an ethical framework for the adequate treatment and care of patients in the context of the pandemic.

Calendar settings

There is uncertainty about when not only face-to-face classes but also exams, assessment procedures and, of course, enrollments that are part of the cycle of any academic year, can be resumed. At the moment, it is impossible to make predictions. The HEIs that have competences in this field have been postponing the major milestones of the academic calendar in line with the provisions governing confinement and quarantine put in place by the respective governments, which in the southernmost countries is translating into the postponement of the start of the academic year.

However, it seems clear that the return to normality will be very gradual often involving some degree of virtualization. For example, Italian universities expect to open their doors in September, that is, at the start of the 2020-2021 academic year, the same as many Spanish universities. According to a recent survey, 60% of U.S. universities are considering or have already decided to go fully online this fall, when the academic year begins there. The implications of this decision are many and include a significant loss of income because many students may choose not to enroll, and this will happen to a greater extent in the case of international students. These

students pay a premium to study in the United States, more than they would pay at home and often more than their American classmates[24].

A very important element in the application of business continuity is administrative security. Often accustomed to going to physical customer service windows, students may now find themselves at a loss with the inevitable administrative changes. To facilitate appropriate attention to the students, the University of Cartagena (Colombia) created three virtual windows to attend to administrative questions, academic procedures and student welfare.

The need to maintain, as far as possible, a certain administrative normality to avoid greater evils or avoid suspending acts that are very significant in university life has also led to some worthy innovations. At the National University of Córdoba (Argentina) a virtual graduation ceremony was held at its Faculty of exact, physical and natural sciences.

Contribution of R&D

Not all HEIs have the same R&D resources. Throughout the world, many HEIs have reacted to the pandemic by integrating their research groups with government efforts in epidemiological surveillance, clinical drug testing, rapid virus detection tests, etc. Similarly, groups have been integrated to produce biomedical equipment such as respirators and involved in other innovative actions.

In Latin America, large public and private universities with research capabilities have redoubled their efforts in the area of coronaviruses. Where there is production capacity, some HEIs have made significant contributions to national health systems. In Argentina, as well as in Brazil, Colombia, Costa Rica, Honduras, Mexico and Uruguay, numerous national universities have begun to provide services and create products needed to address the impact of the pandemic. For example, several have started producing sanitizers, chinstraps, and respirators. Almost all of them are organizing campaigns to promote prevention measures in communities near their campuses and are collaborating with State agencies in this type of initiative and others dedicated to ensuring sanitary conditions and proper nutrition. Several have hospitals, where they do the same and have started receiving patients. Others are working on their own, and / or in collaboration with CONICET, to accelerate research in the hunt for a vaccine and palliative drugs.

Beyond crisis-related research, there are other areas that require the capabilities of higher education to produce new knowledge and develop renewed capabilities. One of them, among others, is precisely education. During the crisis, it is not possible to quantify the learning that is taking place in this area, from the pedagogical to the economic, psychosocial, etc. Certainly, in the near future, it will be possible to take advantage of the knowledge generated in the learning, in some cases "forced", that this situation is generating. It can help us to develop an early warning system to anticipate and mitigate the effects of crises such as this on educational systems and student learning, teachers and the systems themselves. Undoubtedly, a great deal of

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[24] https://www.aacrao.org/docs/default-source/research-docs/press-snapshot/press-snapshot-aacrao-undergraduate-enrollment-indicators-and-admissions-practices-impacted-by-covid-19.pdf

research will also be generated regarding the effects of this crisis in areas such as environmental sustainability, industry, the economy and others.

Pedagogical continuity

Most HEIs have chosen to continue offering regular courses using virtual platforms and always with the guarantee of credit transfer. Here, however, there is a huge difference between those HEIs that have their own capacities both technological and in teaching resources and more importantly experienced teachers, and those that do not. Figure 6 reveals the situation of the main Brazilian universities at the end of April and shows that approximately a quarter of the students could not benefit from teaching continuity. In fact, 13% of the students still had no provision of any kind more than one month after the pandemic was declared. The complexity of the situation becomes even more evident when comparing the data according to the type of Brazilian HEIs: while 97% of private HEIs had a distance education system for all courses, in the case of public HEIs it was only 39%.
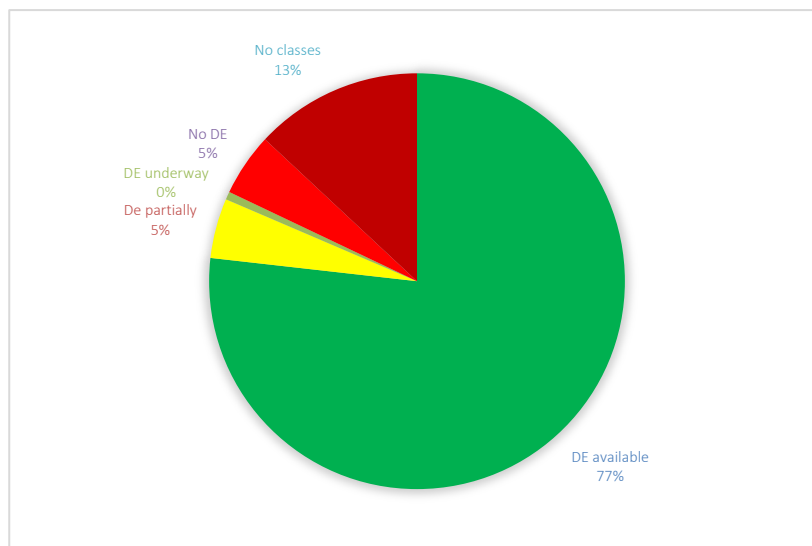
Figure 6. Percentage of higher education students in Brazil according to their institution's provision of distance education as of 24 April 2020

Source: Sample by UNESCO Brasilia Office (2020)

In fact, one could speak of a continuum with two extremes as described below. At one extreme are the universities, public or private, of greater size and international exposure that already have a remarkable tradition of virtual education, generally formed in the subsector of postgraduate and university extension courses. In these cases, there is a platform for virtual education that is often also offered to face-to-face undergraduate students as a didactic complement where they can find programs, readings, exercises and, of course, communication mechanisms between students and also with teachers. In general, the intensive use of these platforms in traditional courses always depends on the initiative of the corresponding teacher, as previously indicated.

Some universities, such as the one in Sao Paulo (Brazil) even have different platforms to facilitate access to digital content (e-disciplines) or to use video-streaming (e-classrooms), which offers complementary alternatives to teachers and students. Other HEIs, with less technological developments, have proposed to the teaching community the use of less complex means as alternatives, for example, the Universidad Mayor de San Andrés (Bolivia) has suggested that teachers use generic applications, in the absence of a virtual campus, such as email, video calls and WhatsApp.

But even in the case of HEIs accustomed to an intensive use of technology in teaching, some have seen the need to prepare teachers and students for the transition to virtual education, with all that this entails in terms of technology and skills for digital teaching and learning. This has been the case of the Universidad de Los Andes (Colombia) which, during the week prior to the cessation of face-to-face activities, offered different training programs for virtual teaching for both teachers and students. Another strategy has been to reinforce the already existing virtual education offices of HEIs, precisely to guarantee better support for teachers and students, as has been the case of the National University of San Marcos (Peru). An indication of the magnitude of the efforts required is seen in some figures from the National Technological University (Argentina): twenty days to create a thousand virtual classrooms; additionally, the university, with a student population of approximately 13,500 students, attended to some 4,500 daily technical and support queries.

At the other end of the continuum of capabilities to operate remotely are small, privately owned universities, which have few resources to cope not only with the change in the modality of teaching but, furthermore, with survival itself in a context that forces them to reorganize themselves financially.

Between these two extremes, it is possible to find a great variety of situations that depend, fundamentally, on two variables: the institutional capacities in the field of virtual education, forged with previous experience, and the regulatory framework. Where this regulatory framework has favored innovation and experimentation in virtual education, the situation is quite different from where governments, for different reasons, have slowed the growth of distance higher education, as is the case of Bolivia and Peru, and in a situation such as that created by the current crisis, this has deprived HEIs of the immediate response capacity that has occurred elsewhere. In Peru, an attempt was made to resolve the existing gap with precise guidelines for HEIs to analyze their own capacity for virtualization, make the appropriate decisions on a course-by-course basis, and equip themselves with internal mechanisms for teacher training and continuous quality assurance for the provision of the distance modality.

Some HEIs in the region deserve a special mention, as they respond to a model similar to that of open universities, for example, the National Open and Distance University of Colombia, the State Distance University of Costa Rica and the rest of the members of the Iberoamerican Association for Higher Distance Education (AIESAD). Although many of them also teach face-to-face courses, they have extensive experience in distance teaching, and their teachers therefore have the necessary qualifications. More importantly, their degrees are specifically designed to be taught in this mode

and the methodology and content are therefore fully adapted to it. The effort that universities are making to migrate their teaching to the virtual environment does not exactly correspond to distance education as it is conceived and taught by this type of university. However, these universities are expressing an extraordinary predisposition to share their experience with the rest of the HEIs in the region and to support them in the virtualization process of their teaching.

Similarly, large providers of massive open online courses (MOOCS) such as Coursera and EdX have also offered their support to HEIs that may see their offer as a suitable complement. For example, during the pandemic, any university can register for free access to the Coursera catalogue. To date, more than 2,600 universities worldwide have activated this program. To facilitate online transfer and quick delivery of appropriate courses to students, universities can use CourseMatch, an automated learning solution that ingests a school's on-campus course catalog and matches each course to the most relevant Coursera courses. The tool has already paired more than 2.6 million courses on the campus of 1,800 schools with MOOCS. It must be remembered, however, that in most cases the courses offered under this model are completely free if a certification is not requested.

The paradox is that even in countries where a regulatory framework favorable to virtual higher education already existed, and where HEIs have managed to generate their own capacities in this regard and with greater ease transfer them to face-to-face programs and therefore provide continuity in virtual mode, not all disciplines or programs allow the required technological and didactic transfer with equal ease. The most worrying case is that of the higher education technical and professional subsector which often depends on instruments and laboratories to train its students.

Support in bibliographic and technological resources

Many HEIs realized, from the outset, that migrating to a virtual mode involved very significant risks of widening the effects of the digital divide by leaving unattended those students in whose homes there was no access to the quality of equipment or bibliographic resources or connectivity, required in order to take advantage of a distance education offer supported by high technological components.

In Latin America, HEI libraries and resource centers closed when face-to-face activities were suspended and there is no record of the continuity of these services. On the contrary, in Norway and Sweden, for example, in anticipation of closures or even when these were being decreed, some libraries established temporary closure plans in respect of manuals considered critical for students requiring them, setting strict limited time for each individual.

An increasing number of HEIs have rolled out initiatives to support students who lack equipment, by making available laptops or tablets on a temporary basis. Also, there has been an increase in the queues of students and teachers seeking technological support, particularly regarding the use of virtual platforms. In Peru, for example, the government has reminded HEIs of the importance of providing alternative measures for those students who do not have the necessary tools to access the virtual offer.

Socio-emotional support

The isolation that confinement entails has also been quickly identified by some HEIs and psychological and socio-emotional support mechanisms have been put in place, particularly for students. This is not a commonly applied measure, but when it has been taken it has usually capitalized on the resources of the psychology faculties or student welfare services. For example, the Franz Tamayo University (Bolivia) has made 13 psychologists available to the university community, precisely to support them in situations of isolation.

Similarly, the Center for Human Development and Counseling (CADH) of the Universidad Católica Andrés Bello (Venezuela) launched a "Psychological Support Group in Times of Pandemic" that, with the help of therapists and via videoconference, offers to break down the dynamics of confinement and help students to reflect on their own experiences and those of others to help them better cope with anguish and anxiety. Also, as already indicated, the University of Cartagena (Colombia) created a virtual window specifically for attention to student welfare issues.

Continuing education programs

Since the beginning of the crisis, the division responsible for continuing education at HEIs have adopted different strategies depending on their resources and management capacity. In most cases, both in Latin America and in other regions, these divisions are self-sustaining, and their survival depends on their ability to generate their own resources since they do not receive dedicated funding from universities. Since the beginning of March, universities have postponed face-to-face classes or replaced them with platforms for streaming, as was the case at the undergraduate and graduate levels, or have decided to offer some courses online. The strategies vary depending on the degree of virtuality of their programs.

This process has faced several difficulties. On the one hand, there was a drop in enrollment in the programs or the request for fee refunds due to the fact that many students were not willing to accept a change in modality. Also, some universities do not open their platforms to continuing education programs. Finally, the problems already described in the training of teachers in virtual teaching strategies are exacerbated for continuing education programs since a large number of their instructors are not regular staff and cannot access the training activities organized by the institutions for their teaching staff.

In addition, corporate programs, which were growing in number among continuing education programs at HEIs, have been postponed or cancelled, causing a significant decrease in their revenues.

Seeking joint responses, universities have deepened already existing collaboration through international networks such as RECLA, RUEPEP or national ones such as the Chilean Continuing Education Network or the Peruvian Network. In all cases, the universities, through webinars or virtual meetings, have shared strategies both for the development of virtual programs and for the management of teams in times of crisis.

This area of higher education is likely to be greatly affected both during and after the crisis. However, the search for collaborative and innovative solutions, the development of flexible programs articulated with other training levels, the reflection on its purposes and mission in the university context and its contribution to the global solutions that will be required once the pandemic is over, are very important. The training of health teams in the different countries can shed light on future decisions. Cases such as that of the Health Training Center of the University of Manresa in Barcelona or the free virtual training provided by the Faculty of Medicine of the Pontifical Catholic University of Chile to professionals in the area to deal with the pandemic, can serve as references.

3. Exit strategy: preparing for the day after

We must remember that, as the Chinese proverb says, spring always ends winter. While the calendar for the reopening of HEIs may be uncertain or indefinite, now is the best time to plan our way out of the crisis. To begin with, there are some basic principles offered below which, according to UNESCO, should guide national and institutional policies; secondly, what a policy framework that promotes a consensual and patterned exit from the crisis should look like at national level; and thirdly, a framework inspired by these principles which presents a course of action for HEIs while trying to shed light on some of the most controversial issues. As recalled in a recent report by the Inter-American Development Bank on public policies to address the pandemic (Blackman et al., 2020), policy makers need to be, now more than ever, pragmatic, flexible, and able to adjust to a changing reality.

A. Basic principles

Although the contexts of the countries are very different, it is important to establish a reference framework that helps decision-making processes in the higher education sector, without forgetting that the first priority must be the protection of health. For UNESCO, this reference framework should be based on the following principles:

1. *Guarantee the right to higher education of all persons within a framework of equal opportunities and non-discrimination is the first priority* and, therefore, all political decisions that affect the higher education sector, directly or indirectly, should be governed by this right. The primary responsibility for ensuring that this right is exercised in practice, rests with the States that must generate adequate regulatory, financing and incentive frameworks, as well as promote and support inclusive, relevant, appropriate and quality programs and initiatives. It is the responsibility of the State to generate a political environment which, while respecting the autonomy of HEIs, is conducive to a way out of the crisis that guarantees health security while optimizing the conditions for institutions to advance in quality and equity.

2. *Leave no student behind*, in line with the principal objectives of the United Nations Sustainable Development Goals. The crisis has a different impact on different student profiles, but it is undeniable that it deepens existing inequalities and generates new ones. It is imperative to attend, as a priority, to the pedagogical, economic and also socio-emotional needs of those students who, due to their personal or socio-economic characteristics, may have had or have greater difficulties in continuing their training in non-traditional modalities.

3. *Governments and HEIs should create coordination mechanisms that allow joint progress to be made in generating greater resilien*ce in the higher education sector in the face of future crises, whatever their nature. It is absolutely essential to involve students, teaching and non-teaching staff in designing the responses that emergency situations demand.

4. *The resumption of face-to-face activities at HEIs should be seen as an opportunity to rethink and, to the extent possible, redesign the teaching and*

learning processes, taking advantage of the lessons that the intensive use of technology may have entailed, and paying special attention to equity and inclusion.

B. Generate a political environment conducive to an exit from the crisis with quality and equity.

States have a fundamental responsibility to guarantee the right to higher education. In the context of the progressive exit from the crisis, governments should consider at least four vectors: the role of higher education in recovery; the need to forge national consensus; the establishment of a clear regulatory framework; and, finally, the promotion of international cooperation.

1. Include higher education in stimulus plans for economic and social recovery

The Economic Commission for Latin America and the Caribbean (ECLAC) has forecasted an economic growth of 1.3% for 2020, a forecast that as of April 23, 2020 reverts to a -5,3% contraction in regional domestic product[25]. The slowdown in the Chinese economy alone would mean a decline in the value of exports to 10.7% for its main trading partners in the Region - Brazil, Chile and Peru. Additionally, there is the greater risk aversion of international investors and the worsening of global financial conditions, a situation that will have an impact on national development plans in which all education prospects are included, including those regarding higher education. The magnitude of the economic impact of the pandemic will depend on how long it lasts, given that "for each month of confinement there is a loss of 2 percentage points in the annual growth of GDP" (OECD Secretary General, 23 March 2020).

On an economic and financial scale, the post-crisis context will require governments to take measures to revive the economy, including stimulus packages. But, in addition, countries must also meet food and health needs, which will translate into a strong tendency to reduce public spending on education, especially in those countries where public debt was already worrying, even before the crisis.

The education sector and, in particular, that of higher education must be seen as a tool in a context of economic recovery and, as such, must be an integral part of the stimulus programs that are designed. In particular, the needs of a foreseeable growth in the demand for higher education in the medium term must be met, while efforts to redress the impact of the impoverishment of a significant part of the population due to the pandemic (which according to ECLAC estimates will be 35 million people in the region) may have equal access to higher education.

A significant part of the resources must go to HEIs, which will have suffered the effects of the loss of fees, and another substantial part to financial support for the most vulnerable students, regardless of the sector, public or private, in which they are enrolled.

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[25] https://www.cepal.org/es/comunicados/covid-19-tendra-graves-efectos-la-economia-mundial-impactara-paises-america-latina

2. Forge a national consensus for a strategy for fostering recovery and innovation in higher education

Governments, university council presidents, quality assurance agencies, and national education councils, together with academic staff and non-academic staff unions and student organizations, should forge a consensus on a national exit strategy, as soon as possible, for the crisis facing higher education. This strategy should not only promote recovery, where the impacts of the crisis have been felt the most, but also the learning of lessons obtained, as well as the promotion of innovation, reflecting on the validity of the traditional model of higher education. Such a strategy should contemplate:

1. Shared principles and guidelines to guarantee the protection of the right to higher education.

2. Measures to assist HEIs by supporting their efforts in diagnosing, compensating, and validating student learning achievements.

3. Mechanisms to strengthen the resilience of HEIs in the face of future crises, paying special attention to developing their technical, technological, and pedagogical capacities to appropriately use non-face-to-face methodologies, as well as their abilities to monitor students, particularly the most vulnerable.

4. A national debate on the lessons learned from the crisis in higher education, taking advantage of international debates and experiences and helping to generate, whenever possible, regional and international consensus and agreements.

5. Shared and effective communication of messages for public opinion.

3. Provide a clear regulatory environment for the reopening of classrooms that promotes a sense of security

The exceptional situation experienced by all actors in higher education invokes many uncertainties about what will happen when HEIs are reopened for classroom teaching. It is very important that, in the context of a national consensus, the measures to be taken to safeguard quality and equity in higher education be announced as soon as possible. The aim is to offer a regulatory framework that offers security in those areas that generate the most controversy, applying maximum transparency and dissemination. Specifically:

a. Should exams to access higher education be postponed? : In those countries where the duration of the pandemic affects the schedule of the entrance examinations, it is preferable to postpone them until the latest possible date. Should this not be possible, alternative assessment mechanisms would apply (for example, the exam grade can be based on the average of qualifications obtained in the most recent courses), or the exams can be conducted using technological platforms, which is quite complex. The complete removal of the exam requirement can prejudice a whole generation of students. The option of designing innovative formulas should not be ruled out. One option, which

has been proposed in England, is to use the achievements obtained during upper secondary school, to predict the grade that would have been obtained, leaving the student to resort to a second call to improve the result obtained using this prediction method. This is a traditional practice in the State of Texas, USA, and increasingly in Chile and other countries. In all cases, studies show that its use has a high capacity to select the best students in their contexts. In doing so, these mechanisms contribute directly to the objective of inclusion and equity since they select the best without discrimination based on socioeconomic, ethnic, gender or any other characteristics that represent grounds for discrimination that should be prohibited.

b. Should all students begin attending class at the same time?: The decisions already being made regarding the opening of schools in some countries (Germany, China, Denmark, for example) show that it is completely inconceivable that with the re-opening, the schedules and student groupings that existed previously would be maintained. Restrictions on the physical distance between students will result in the splitting of groups and inevitably a reduction in the number of hours spent per group in class.   Experience also shows that the opening of schools does not affect all students equally in all courses, but that priority is given to those who are completing a cycle. In the case of HEIs, this would translate into giving priority of access to classrooms to those students who are in the last year prior to graduation.

c. Co - curricular activities: Rectors of Spanish HEIs have proposed that these be considered fully completed if at least 50% was achieved before the suspension of the face-to-face activities. Particular mention should be made of students in health and education sciences, since their typical practical requirements are unlikely to function normally until well after the period of confinement has ended;

d. The academic calendar, particularly if the term has ended: Should a repeat be encouraged? In the event that the duration of the cessation of classroom activities is close to or exceeds an academic term, the debate on whether tthe course should be repeated will arise. This option should be ruled out because neither the students nor the system will benefit. On the contrary, attention should be focused on compensatory and validating mechanisms and, eventually, an extension of the duration of the academic year.

4. Commit to international cooperation

In the face of a crisis that knows no borders, international cooperation from the perspective of multilateralism is more crucial than ever. This cooperation is important in the higher education sector not only because of its impact on international mobility, but because, above all, it is the only possible way to learn more quickly what has worked in the context of the crisis, why and under what circumstances. It is also important to forge alliances that, in the face of future crises, will allow for action in a coordinated and more efficient manner.

Specifically, international cooperation must target:

- Encouraging peer-to-peer education on policies;
- Building alliances that promote the resilience of higher education systems;
- Sharing resources and technological solutions; and
- Giving better international legal coverage to academic mobility.

C. A framework for the day after: Strategies and recommended actions at the institutional level

The implementation of the above principles may adopt different strategies depending on the contexts and draw on the lessons learned from educational planning for exit from a crisis situation (UNESCO, 2020). It is critical that there is a framework which presents the exit from the crisis as a process with successive phases, each with different priorities. If well utilized, this exit can go beyond the installation of a new normality to become an opportunity for restructuring the provision of higher education of greater quality and equity.

Figure 7 presents these phases and their respective priorities from an institutional perspective, assuming that there is a national political environment which is conducive to a quality and equitable exit from the crisis, as described above.
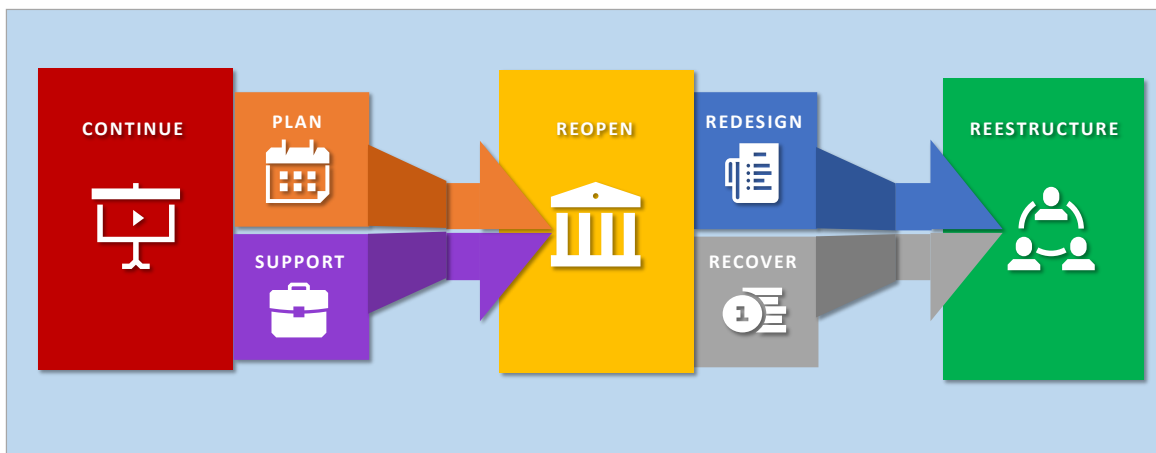

Figure 7. Reference framework for exit from the crisis: phases and priorities.

Source: UNESCO IESALC (2020).

At the institutional level, attention must be placed, first, on how to manage processes, in particular training continuity, during the crisis and immediately afterwards, until institutions are reopened. For this, the horizon should be set on restructuring, as soon as possible, the teaching and learning processes, building on the lessons learned during the crisis.

The reference framework envisages three distinct phases and the priorities in terms of processes that should enable the transition between these phases. These are:
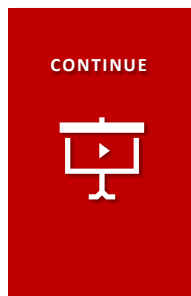
1. **CONTINUE**: Despite the health crisis, to guarantee the provision of the service in the absence of face-to-face modalities and, therefore, the continuity of distance learning.
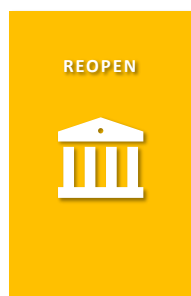
2. **REOPEN**: Facilitate the reopening of HEIs, with the limitations imposed by the health authorities, in order to resume face-to-face teaching activities. This is the phase in which most actors set the desirable horizon.
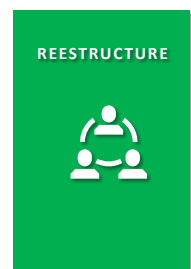
3. **RESTRUCTURE**: Generalize a new model of organization of teaching and learning processes, typically hybrid, in order to improve the quality of service and also equity, taking advantage of the lessons learned during the phase of teaching continuity. This is an opportunity that perhaps not all HEIs will be able to experience and take advantage of.

What should the priorities be in order to facilitate a progressive and gradual transition between each of these phases?

1. From Continuity to Reopening

There should be two priorities: to support students and teachers in order to promote teaching continuity with quality and equity and also to plan adequately for reopening.

SUPPORT

Focus on ensuring teaching continuity and guaranteeing equity; creating governance mechanisms, monitoring, and effective support.

In the weeks following the suspension of face-to-face activities, it may have seemed that one needed to transition to a waiting mode, until the resumption of classes. The fact that face-to-face classes are essentially group activities will mean that, in the context of social distancing measures, a recurrence can be expected.

The enormous efforts to adapt to new teaching and learning modalities by teachers and students also require that HEIs monitor how teaching activities are carried out and what needs, of any kind, can emerge in the academic community. It is therefore useful to:

- Establish a crisis committee to focus essentially on continuity and equity, incorporating technical and pedagogical elements, and be the voice of the main actors;

- Monitor and provide daily follow-up on the needs that arise in each case;

- Address priority issues of lack of equipment or connectivity, and as far as possible, offer services and applications for cell phones; and

- Guarantee that students and teachers have permanent support lines, either by telephone or internet.

PLAN

Prepare for alternative scenarios

Weeks after the suspension of classroom activities, it may seem that one has to go through merely a waiting period until classes can resume. Based on what is happening in China and other Asian countries, everything seems to suggest that the recovery of the face-to-face classes will take longer than initially anticipated, possibly between two and four months. The fact that the presential classes are, precisely, group activities will imply that, in the context of social distancing measures, their return will be made to wait; and, very probably, when it is finally possible, it will be subject to conditions of physical distancing that can imply the unfolding of groups and the creation of alternative schedules.

In these circumstances, HEI crisis committees should consider alternative scenarios, at least in relation to three factors:

- All the effects (organizational, pedagogical) which may lead to a postponement of the reopening beyond one term, be it the first or the last term, depending on the calendar of each country;

- Health constraints which will most probably be in place at the time of reopening and which will require adjustments to be made to classrooms and furniture, to teaching hours and to complementary teaching facilities (libraries) and non-teaching services (gymnasiums, cafeterias, etc.), which must be identified as soon as possible to facilitate opportune action. Inevitably, these adjustments will also have implications for teaching staff, their numbers and their duties;

- The implications that all of the above will have on the institution's finances, in the context of declining demand, reduced availability of family resources and, perhaps, reduced public investment.

2. From reopening to restructuring

During this transition period, which not all HEIs will have the capacity to undergo, the priorities should be: to recover through compensatory strategies the losses in learning, taking into consideration the more vulnerable students who have found themselves in difficult conditions for education continuity ; and, secondly, to redesign the processes of teaching and learning, taking on board hybridization, that is, the combination of face-to-face and non face-to-face activities.

RECOVER

1

Design pedagogical measures to formatively evaluate and generate mechanisms to support learning among disadvantaged students.

How to validate distance learning? The natural recommendation is that diagnostic evaluation tests be carried out for each course to identify the level of competence of each student relative to what would be reasonably expected. It is very important that these tests are formative in the sense that they guide the teaching responses and that they allow to adequately differentiate the levels of achievement of students. There are various instruments for distance education assessment that can be effective, although an issue which has not yet been fully resolved, is the verification of the student's identity. Again, technology can be used as a support tool for personalizing the validation process.

In this regard, there are some strategies which, while not being frequently used in higher education, can bear good fruit, such as:

- Individualized tutoring;

- Small learning groups to facilitate equitable progress in critical subjects which are fundamentally important; and

- Summer (or winter) schools offering compensatory seminars.

Invariably, the implementation of these types of initiatives has an associated cost which is not negligible, but the benefits in terms of quality of learning and equity, far outweigh the costs.

REDESIGN

Document, reflect, scale up.

1. Document the pedagogical changes introduced and their impact.

HEIs should, in an exercise in transparency, document from the outset the measures and changes made to promote distance learning to students. In this sense, guidelines and recommendations such as those distributed by the United States Department of Education or the Ministry of Education of Peru can be very useful. This documentation will probably be required at some point by the quality assurance agencies to certify the processes.

2. Promote internal reflection on the renewal of the teaching and learning model.

Finally, HEIs will have missed a great opportunity if they do not stop to reflect internally, with the participation of students and teachers, about the lessons learned during the crisis about the teaching and learning processes. The critical question is whether the acquired experience can be capitalized for a redesign of these processes, maximizing the advantages of face-to-face classes while making the most of technologies, and, secondly, how far does each institution want to or can go.

This reflection may be concretized if HEIs have innovation and pedagogical support offices whose role, in addition to developing the pedagogical competences of teachers, is to promote pedagogical innovation and accumulate and disseminate the findings resulting from their evaluation.

We usually say that in every crisis there is always an opportunity. Perhaps, in this case, it is an opportunity for a pedagogical review. It is therefore expected that many HEIs will undertake the path of a necessary pedagogical renewal that favors both quality and equality.

3. Learn from mistakes and scale - up digitization, hybridization and ubiquitous learning

Many countries have made the mistake of relying exclusively on online education, which only ensures continuity of learning opportunities for students that have access to good connectivity. Resorting to technologies that require stable bandwidth connectivity significantly impacts the more vulnerable sectors. Internet access is not always possible and when it is, connectivity is often lacking. The classes that are transmitted using streaming, for example, are more difficult to access due to the

amount of data they use and the quality of connectivity required. In this sense, virtualization particularly impacts socially and economically disadvantaged students who have only recently benefited from the processes of democratization and mass enrollment in higher education. If virtualization is to be the main tool to sustain the education function, the enormous digital divide must be taken into consideration. Its existence must be recognized, not with the intention to reject virtualization, but to design strategies and support mechanisms that will help combat it even more intensely.

Thinking now about the future, it is necessary to start from the principle of realism and generate strategies that do not rely only on a single technology, but on several to ensure that all students are taken into account or, which is equally or more important, that technological solutions do not harm those who are already disadvantaged. Every HEI, and probably every discipline, must find the most appropriate combination of technologies and resources to increase the pedagogical impact. We do not need to think about possible future crises to have a diversified approach to the use of technologies in higher education. It is enough to conduct an exercise in realism, applying the principle that more efforts should be invested in those technologies, teaching resources and supports that are within the reach of all, to improve the quality of face-to-face teaching and promote hybrid methodologies; in other words, they combine the best of face-to-face with the potential of technology to support pedagogical renewal and improvement.

At the same time, within the framework of national public policies and with the support of industries and telecommunications companies, innovation must be promoted, taking advantage of the potential of digitization to concretize the principle of ubiquitous or mobile learning, and its advantages for higher education. This has been addressed in multiple studies (Aljawarneh, 2019; Pimmer, Mateescu, & Gröhbiel, 2016). In real terms, this implies:

1. Recognition of the potential of cell phones as communication and learning tools, as well as a tool for accompaniment and the socio-emotional monitoring of students. In most countries, higher education students have the device, even though sometimes with very basic configurations, but their pedagogical use has in many cases been refuted.

2. Promotion of the improvement of the conditions for accessing equipment and, above all, mobile connectivity packages that make it easier for students and teachers to improve their technological capacity. In this sense, the cost of connectivity is critical to promoting mobile learning. In some countries, particularly in West Africa, some telecommunications companies offer free use of data for educational applications and services. In Rwanda, the two main telecommunications companies have pledged to do so. This is a possibility that governments should promote at the national level.

3. Retrieve radio and television programs and digitize them so that they are accessible through educational channels and, alternatively, as podcasts.

4. Using low-cost technologies, explore the possibility of recording face-to-face classes that are duly archived and made available at the resource centers or

libraries of the HEIs. There are many lessons to be learned from the international experience accumulated with MOOCS.

5. Develop the capacities of teachers, offering appropriate incentives and support, so that the use of technological solutions and resources that can improve the quality of their work, is extended.

6. Redefining the contractual modalities of teachers, taking into account the implications of academic teleworking and online teaching that will undoubtedly become part of the new daily life of HEIs.

7. Develop the capacities of teachers, offering appropriate incentives and support, using technological solutions and resources that can improve the quality of their work.

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