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## Applying quality standards to strengthen blended and distance learning program

Content proposal for a Policy Brief

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## Context and Purpose

From the initial stages of the COVID-19 pandemic, the Ministry of Education of Peru has implemented measures to provide support and guidance in the planning process of the academic year of Peruvian universities. Those efforts aimed to ensure the continuity of higher education using a distance education mode and avoiding the interruption of studies due to the global health emergency.

Considering that the return to face-to-face (or blended) classes remains uncertain and that a complementary norm to the Vice-ministerial Resolution N°085-2020-MINEDU will soon be published, the purpose of this Policy Brief prepared by the Peruvian Ministry of Education with IESALC-UNESCO is to provide Latin American officials, authorities and policymakers with a systematic review of international experiences to show how States have been dealing with COVID-19 within the university domain.

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# 1. The Effects of the Pandemic on Higher Education

## 1.1 Have university closures been universal?

Historically, no event has ever had a disruptive effect of the magnitude of the COVID-19 pandemic. Although nearly all higher education institutions (HEIs) were temporarily closed to protect public health, the impact of such a measure will have significant repercussions in the short and long term for the various players and institutions. In other words, the cessation of academic activities may worsen the preexisting gaps, with implications for essential aspects such as equal access of vulnerable populations, student continuity, and the quality of teaching and learning processes.

## 1.2 Have technological solutions been utilized everywhere to sustain the pedagogical continuity on a global scale?

The aim of public policies globally has been to ensure the continuity of higher education services by utilizing alternative access methods such as the virtual modality. In order to facilitate the implementation of this solution which is heavily reliant on technology, governments have focused on the following three aspects:

- The implementation of technological resources such as virtual platforms and the reduction of digital gaps to provide a minimum level of infrastructure that enables the development of online classes;
- Training in digital competencies for teachers generally accustomed to operating in face-to-face classrooms and, therefore, not prepared for a change in the teaching modality and methodology, and
- Solutions related to the virtualization of pedagogical contents.

## 1.3 Which have been the main challenges in terms of quality and equity?

### Quality

There is a general perception that the transition in modalities from learning in person to distance learning implies a loss in quality. This has motivated students from countries such as the United States and England to request a partial refund of their tuition fees. However, virtual education, following a systematic process of digital transformation that requires a meticulous design, should be differentiated from what Hodges et al. (2020) describe as Emergency Remote Education (ERE). Even though, in a large number of cases, HEIs have lacked previous experience in virtual education, an abrupt adaptation to ERE was made to offer an alternative access method and ensure the continuity of higher academic service. It is in this context that quality and learning achievements may be compromised in attempting to replicate in-person content, experiences, and teaching methodologies in a virtual classroom, e.g. master classes, without taking into consideration the dynamics commonly used in virtual learning environments (Kulinski & Cobo, 2020; Hodges et al., 2020).

A second aspect that may have given rise to the students' disappointment is the absence of university campus-associated experiences. Clearly, the interactions between peers taking place in a face-to-face campus, and the reinforcement of social skills that accompanies it, cannot be transferred to a virtual classroom or substituted by videoconferencing tools. Also, courses of a hands-on nature or with laboratory components, which are essential to a student's comprehensive training, have been especially compromised due to the complexity of adapting them to a virtual modality.

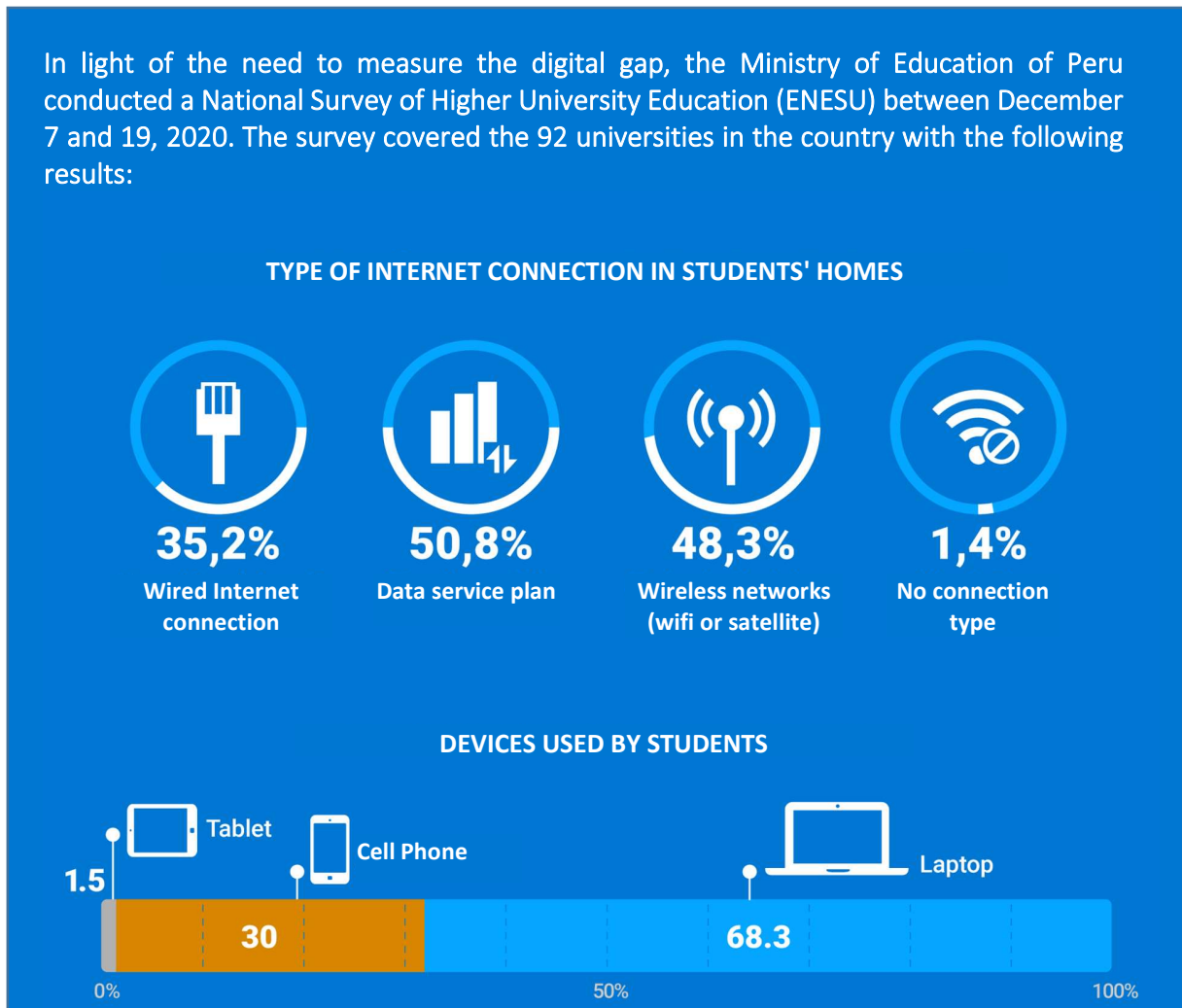
### Equity

Even though distance education has enabled the continuity of academic activities, this teaching modality could have severe implications for equity. The crisis caused by the pandemic disproportionately affects the most vulnerable students. Hence, the basic principles of ensuring the right to education and not leaving any student behind should be the compass that guides public policies. It is important, therefore, that the following points be considered to avoid a significant increase in dropout and school interruption rates:

- There is a wide digital gap, with a greater impact on the most vulnerable populations. At a regional scale, it is estimated that only 45% of the population has access to the internet at home (UNESCO, 2020).
- Classes by videoconference require ample access to technological equipment and a high capacity for data or bandwidth, which represents a barrier for both low-income students and those living in remote areas with no access to the internet.
- Students identified as belonging to vulnerable groups usually have fewer digital competencies, making it more difficult for them to adapt to the online modality.
- The economic contraction strongly affects students in poverty and extreme poverty as it aggravates their financial situation, dramatically increasing the cost of opportunities associated with higher education and the number of dropouts.

## PERU CASE STUDY

In light of the need to measure the digital gap, the Ministry of Education of Peru conducted a National Survey of Higher University Education (ENESU) between December 7 and 19, 2020. The survey covered the 92 universities in the country with the following results:



### 1.4 Which are the most important achievements?

Although it is still too early to assess the achievements of the measures implemented to deal with the pandemic, the immediate effect generated worldwide is the beginning of the digital transformation in higher education. The role of technological developments has become more relevant when compared to the months prior to the COVID-19 crisis. According to the International Association of Universities (IAU), by May 2020, within the American continent, 72% of the teaching-learning process was transferred to the virtual environment, 22% of the activities were suspended while preparing solutions, 3% were cancelled, and only 3% of HEIs were not affected (Marinoni et al., 2020, p.24). A regional survey conducted by the European Association for the Internationalization of Education (EAIE) shows that, in terms of how to move forward during this time of emergency, 13.7% of HEIs indicate that sharing the strategies used by other institutions would be valuable to deal with the situation (Rumbley, 2020).

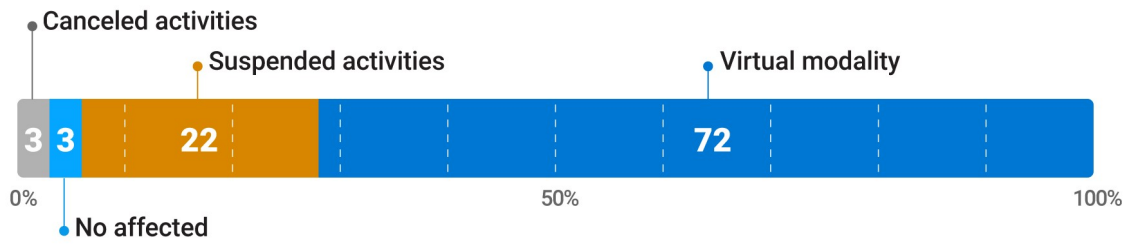


FIGURE 1: HEI situation status May 2020

Source: International Association of Universities

Another trend seen as strategic in the sector is related to the increase of new partnerships between universities and online program managers (OPX), seeking to speed up the transition towards virtual teaching and to be able to meet the demand for distance higher education. Following a path towards expanding the supply of remote learning, during the first half of 2020, an increase of 85 new Public-Private alliances between universities and OPXs was recorded (HolonIQ, 2020), showing a growing sector that experienced a great thrust in the face of the pandemic.

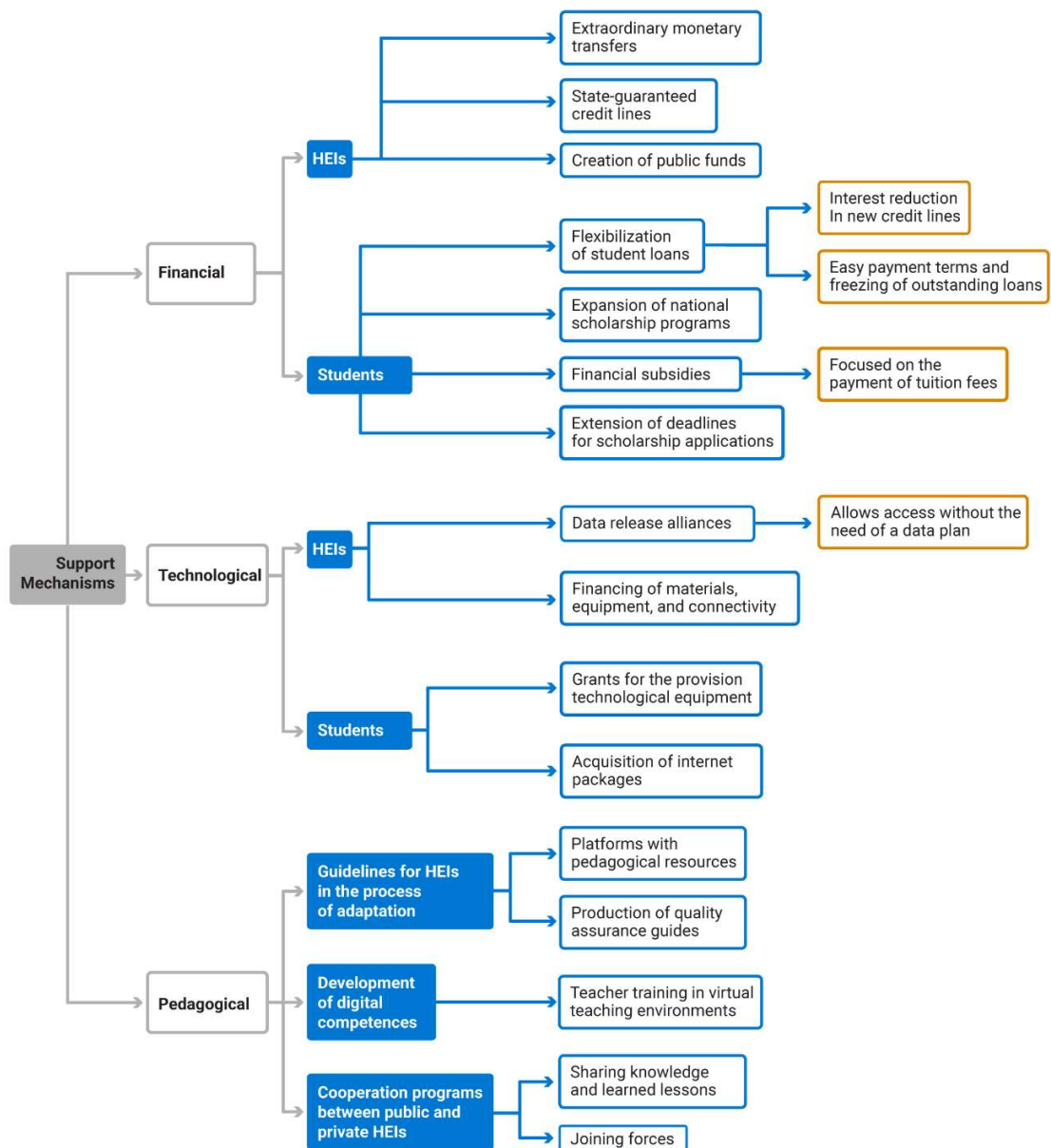
### PERU CASE STUDY

As in most countries, the HEIs of the Peruvian higher education system, especially the public universities, were not prepared to change to the online modality. However, 100% of the licensed institutions were able to ensure the continuity of the higher educational service. The graph below shows how HIEs progressively initiated classes for the academic year 2020-1.





## 2. Guidelines and Support Mechanisms:



Source: Compiled by the author

### 2.1 Financial components: What is the volume of public resources intended to mitigate the effects of the pandemic in the universities?

The lockdown measures, which were necessary to prevent COVID-19 from spreading, have triggered an economic crisis that reduces the demand for higher education and increases the risk associated with school interruptions. In order to mitigate this impact, Latin American governments have implemented financial aids for both HEIs and students. On the one hand, HEIs received extraordinary transfers of resources and, on the other hand, students

benefited from interventions that involved a more flexible payment of debts and the extension of deadlines for scholarship and student loan applications.

#### HEIs:

Among the regional experiences, Chile, Colombia and Mexico provided public resources to alleviate the financial situation of their universities. Through recovery programs such as *Unidos por Colombia* (United for Colombia), with a budget of US\$ 280 million, and *FOGAPE-COVID* in Chile (US\$ 15 billion), the governments of these countries delivered state-guaranteed credit lines to mitigate the impact in the sector. In the case of Mexico, the authorities addressed the issue of economic support using the Support Fund for the Financial Remediation and Attention to Structural Problems of State Public Universities, whereby the institutions can access public resources to attenuate the impact of the pandemic.

#### Students:

With respect to financial support for the students, measures such as the extension of deadlines for scholarship and student loan applications were implemented in Chile and Brazil. In Colombia, student debts were frozen. In the specific case of Colombia, the flexibilization of student loan payments, framed within the “Temporary Aid Plan”, was accessed by over 101 thousand higher education students, thus reducing the overall dropout rates. Also, the Colombian government provided US\$ 30 million of the national budget for the “Solidary Fund for Education”, whereby monetary subsidies are granted to cover vulnerable students’ tuition fees in public universities. It is worth mentioning that this fund is expected to benefit a total of 661 thousand students.

## PERU CASE STUDY

Considering the expected financial impact of temporarily closing the HEIs and the transition to an Emergency Remote Education (ERE), the Government promulgated regulations in budgetary matters for the benefit of public universities to meet the basic needs and ensure the continuity of the service under the modality. Among these initiatives, the following decrees are highlighted:

### Emergency Decree N° 053-2020

The legal framework of 51 universities enabled them to make budgetary changes for amounts up to 231.3 million Soles to ensure the operability and functioning within the framework of the pandemic.

### Emergency Decree N° 070-2020

37 public universities were authorized to finance the temporary hiring of technical personnel specialized in investments to manage the available resources more efficiently. The total authorized amount transferred was 2.2 million Soles.

### Emergency Decree N° 117-2020

43.2 million Soles were transferred to 34 public universities. This amount was intended for the maintenance of the infrastructure, the reduction of the digital gap, and equipment replacements.

### Emergency Decree 1455-2020

Within the framework of this decree, the National Government Guarantee Program "Reactiva Perú" was approved. Through this program, state-guaranteed credits were provided to ensure the payment chain. By October 2020, 38 private universities were benefited with credits in the amount of 264.7 million Soles.

## 2.2 Technological components: How have universities been supported in terms of connectivity, technological resources, or applications? Are there any national support programs available?

The nature of the pandemic has forced universities to rapidly migrate towards a virtual modality, the success of which relies heavily on digital capacities and available resources. Facing the challenges that this implies, the governments of the region have undertaken a series of measures to provide both HEIs and students with technological resources in order to reduce the preexisting digital gaps and ensure the educational continuity in an inclusive and equitable way. Some non-financial measures executed by different Latin American governments include, in a transversal manner, initiatives associated with the supply of technological resources and training in virtual learning environments.

### HEIs:

Regarding government initiatives to directly support HEIs, there are experiences such as that of the Ministry of Education of Argentina, which has undertaken a program, in alliance with the main local cellular telephone companies, to release mobile data in the websites of the 57 national universities. This initiative will enable a reduction in the impact from the transition to distance education in terms of equitable access, as cell phones are technological devices more widely used in the region, and students will be able to have unlimited access to the platforms and virtual classrooms without having to use their own data plan.

### Students:

In the case of students, several initiatives to provide technological resources to the student community have been implemented through public HEIs, with financing mainly from national budgets. Among these programs is the “Laptop Scholarship” of the University of the Republic in Uruguay or the “*Tu PC para Estudiar*” fund of the National University of la Plata in Argentina. In both cases, the universities provided, through “technology grants”, based on the students’ socioeconomic conditions, the necessary technological devices for the optimal development of a remote educational process. Likewise, public universities such as Universidad de Antioquia in Colombia, the Universidad Estatal a Distancia in Costa Rica, and the Universidad Nacional Autónoma in Mexico provided funds for the acquisition of internet packages to ensure the connectivity of their student communities.

## PERU CASE STUDY

<b>Legislative Decree N° 1465-2020 and Emergency Decree N° 107-2020</b>	<b>Legislative Decree N° 002-2021-MINEDU</b>
Based on the technological barriers which impede the access to remote education, through LD No. 1465-2020, the hiring of internet services for low-income students and teachers was authorized. Due to the wide digital gap, this intervention was enhanced with the ED No. 107-2020. Through both decrees, the budget change was approved in the amount of 61.4 million Soles to ensure the access.	66.1 million Soles were transferred directly from the Ministry of education to finance the hiring of the internet service for the entire teaching staff and for students in situation of poverty and extreme poverty.

### 2.3 Pedagogical components: What guidelines or requirements have been developed for the universities (by governments, quality assurance agencies, or rectors' conferences)?

Migrating to a virtual education model requires knowledge and skills that, prior to the pandemic, were not essential to carry out the teaching and learning processes. International experiences show that governments, such as Brazil, Chile, and Panama, have been obliged to undertake mechanisms of pedagogical training in virtual teaching environments to facilitate the adaptation of teachers. Meanwhile, the Ministry of National Education of Colombia addressed the pedagogical component with a regulatory framework focused on ensuring continuity through academic-administrative activities and the use of technologies. It should be noted that, within this framework, digital training strategies were executed, namely the “*Plan Padrino*”, whereby nearly 40% of public and private HEIs join forces, working collaboratively and sharing experiences from the lessons learned regarding the virtual modality.

In addition to national governments, quality agencies, as technical organizations responsible for regulating the educational offer and ensuring the minimum quality conditions, have facilitated the transition to distance education by preparing orientations and guidelines intended for HEIs. The following are examples of these international experiences:

#### Tertiary Education Quality and Standards Agency – TEQSA (Australia):

The cornerstone of TEQSA is the concept that the quality of learning outcomes resulting from higher education should be maintained, regardless of the modality used to render such service. Following this approach, the agency developed guidelines that HEIs must consider to maintain quality while adapting to distance education. The following aspects are emphasized in this manual:

- Ensure that the students acquire the expected competencies and effectively monitor both the advances and the learning results.
- Monitor the participation of students to ensure they regularly visit the virtual platforms and develop the required learning.
- Guarantee academic integrity. This includes the mitigation of particularly relevant risks in virtual contexts (e.g. identity theft and plagiarism).
- Ensure processes to maintain the academic integrity of tests that enable the students to demonstrate their learning results. Also, test taking formats should be clearly explained and appropriate to meet the objectives of each course.

In addition to the guidelines, TEQSA, in collaboration with international institutions and experts in virtual education, has launched a space in its [webpage](#) of online learning good practice. This platform, which is divided into seven thematic sections, provides a wide range of orienteering resources such as webinars, blogs, academic articles, guides, case studies, etc.

### Quality Assessment Agency – QAA (United Kingdom)

In March 2020, the United Kingdom (QAA) quality agency published a guide for higher education service providers within the framework of the pandemic. The guide focuses on 5 essential assessment criteria, which are described as follows:

- **Learning and Teaching:** The teaching and learning processes require changes to avoid harming the quality of e-learning. Any changes should be clearly communicated to the students so that they can make informed decisions. Additionally, the pedagogical accompaniment and feedback processes and how these will be performed should be considered.
- **Credits, Advancement, and Graduation:** The relevant body should provide solid justifications with regard to the circumstances in which the credits and degrees could be granted. In the case of programs that require face-to-face courses or activities, flexibility is recommended to allow such activities to be reprogrammed.
- **Admissions:** Schools have continued to operate remotely. However, one cohort will not be able to take their high-stakes exams, which is why universities must consider this issue.
- **Assessment and Feedback:** The change towards virtuality will affect areas such as curriculum development, communications, and policies, due to which actions should be taken. It is important to have flexible measures and alternative mechanisms that will enable students to attain the same learning results.
- **Involvement of Students and Examiners:** Many decisions are made very quickly, leaving little time to consult with the students. The involvement of student representatives, as well as members of COVID-19 response groups, is suggested.

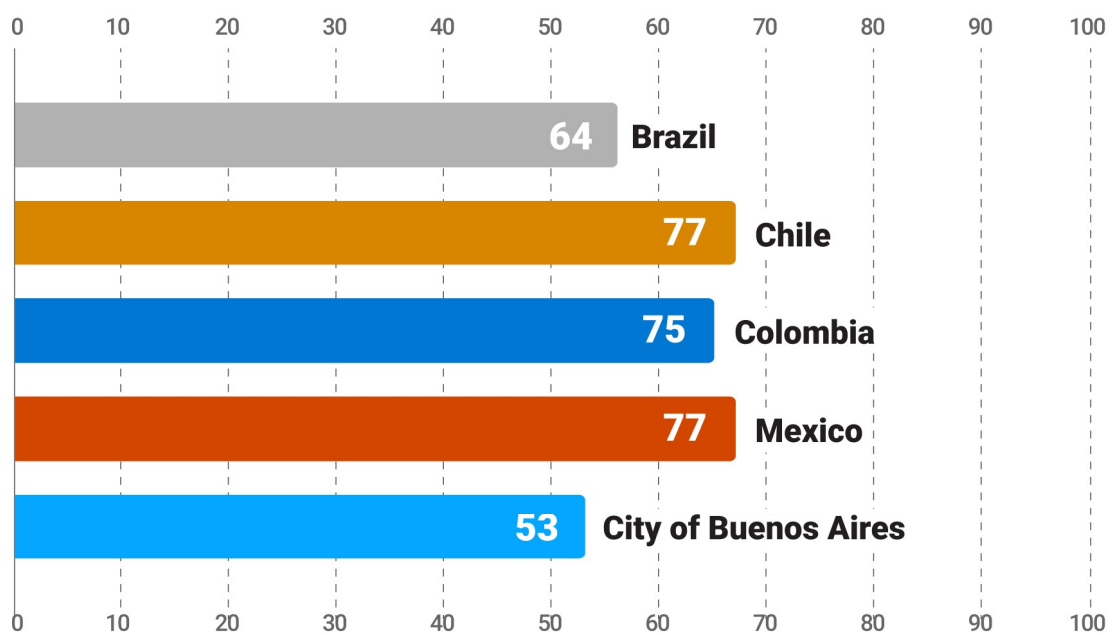
#### 2.4 Are there programs intended to further the skills of teaching staffs to ensure the quality of the service?

A large number of teachers were not prepared for a total change of paradigm in view of the fact that apart from the lack of experience in digital environments and the consequent competency gap, adapting to a highly complex technological modality implies more class planning time and makes student follow-up more difficult (ECLAC-UNESCO, 2020). It is precisely due to this problem that one of the main action plans is the support to the teaching staff by providing pedagogical resources and continuous training in virtual teaching environments.

A report prepared by ECLAC and UNESCO (2020) shows that, at a regional level, 14 countries have followed the path of providing training courses to further the skills of teaching staff and boost the use of ICT tools in teaching and learning processes. Among these experiences is the “COVID-19 Educational Plan” promoted by the Ecuadorian government. As an integral part of the program, the Ministry of Education, in coordination with local and international institutions, such as the International University of La Rioja (UNIR) in Spain, received over

120,000 enrollments of teachers in training programs. Among the offered courses were initiatives addressing the use of Learning Management System (LMS) platforms, training of online tutors, processes to effectively virtualize classes, including Massive Open Online Courses (MOOC) for the management of virtual classrooms.

Despite the fact that the results of the last international survey on teaching and learning, TALIS (OECD, 2019) show that, on a regional scale, a high percentage of teaching staff usually has access to training courses in ICT tools for teaching purposes (Figure 2), teachers claim that one of their greatest needs is precisely the access to training courses to improve their digital competencies. This perception is in line with a Colombian study (Olivares-Parada et al., 2020), which shows that since the pandemic, there has been a clear change of attitude and more interest in adopting technological tools in pedagogical practices. Even though more studies are required to generalize, everything seems to indicate that COVID-19 represents a turning point that increases the value of technological innovations in the field of education and encourages the teaching staff to further their knowledge of ICT tools and redesign teaching and learning processes.



**FIGURE 2:** Percentage of teachers trained to use ICT tools

*Source:* OCDE 2019, TALIS 2018 (Volume I). Teachers and School Leaders as Lifelong Learners

## PERU CASE STUDY

### Vice-Ministerial Resolution N° 085-2020-MINEDU

This resolution establishes a normative framework with strategies that enable guiding public and private universities in essential pedagogical matters for the provision for Emergency Remote Education. Among the recommendations with regard to academic planning, are the development of the service supply, the teaching exercise, as well as their adaptation to a remote modality, and communications intended for students.

### CONECTADOS Platform

The web portal Conectados was launched as a space for guidance and accompaniment for the implementation of remote education. The purpose of this platform is to meet the needs of authorities, teachers, and students through a wide range of free resources, allowing them to reinforce their skills in virtual environments. Such resources include ppt templates, photos and videos to prepare class materials or papers, tools to conduct surveys or create conceptual maps, store and transfer documents, share an online blackboard, access digital libraries, give webinars and online courses, among other features. It is worth mentioning that MINEDU regularly updates the web portal to make announcements and supervise the work of public universities within the framework of the pandemic.

### CONECTADOS Guides

Considering the lack of experience and the concern caused by the transition to remote education, MINEDU developed four guides that describe the pedagogical path to be implemented in order to successfully adapt to the new teaching modality. These resources intended for university authorities, set the standards to perform self-assessments of institutional capabilities, identify virtualizable courses based on the nature of their contents, reinforce capabilities in compliance with the regulations in force.

### Strengthening Plan: Summons 8

Through a grant fund undertaken by the PMESUT program, in alliance with the IDB, 52 public universities are currently receiving technical assistance from the following broadly experienced local and international organizations with strong track records.

- UNESCO-IESALC
- LASPAU (Harvard), together with the Monterrey Institute of Technology and U Planner
- British Council, together with the University of Liverpool
- Pontifical Catholic University of Peru (Innova PUCP)
- UTEC, together with the faculty of education of the National Distance Education University (UNED) and TECSUP

The summoned organizations provided assistance to the universities through processes aligned with the VMR No. 085-2020-MINEDU. Such processes included the assessment of institutional capabilities, curricula analyses, training in digital competences for key players, the development of virtual courses per university with global quality standards, and setting up systems for monitoring and evaluating the Emergency Remote Education. As shown in the following table, over 21 thousand key stakeholders from the academic community were benefited with these training programs.

	Beneficiaries
Teachers	5,398
Students	15,301
Non-teaching staff	328
<b>Total</b>	<b>21,027</b>



### 3. Quality Assurance during the Pandemic:

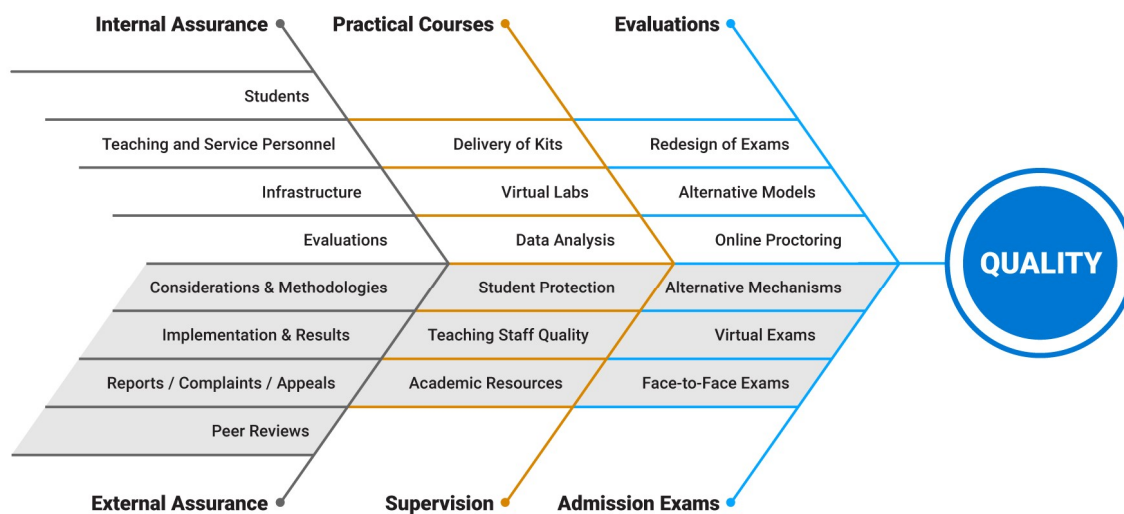


FIGURE 3: Key Elements in the Quality Assurance Process

Source: Compiled by the author

#### 3.1 How has quality been supervised in the transition to emergency remote education at institutional and national levels?

As mentioned above, quality agencies around the world have assumed a central role in facilitating the transition to distance education through the development of guidelines and pedagogical resources. Within the current framework, characterized by both academic and pedagogical innovations, some organizations suggest focusing their oversight on ensuring the protection of the student and guaranteeing the quality of both the academic resources and the teaching staff giving classes (ANECA, 2020). Additionally, in the face of new demands requiring the adaptation to a new teaching modality, most European agencies expressed their intention to render the external quality assurance assessments more flexible, including the following aspects (Huertas et al., 2018):

1. Consideration of the internal quality assurance
2. Design of appropriate methodologies to ensure the expected quality objectives
3. Implementation processes
4. Peer review of experts
5. Definition of clear criteria to cast judgment on quality processes
6. Publication of reports prepared by experts
7. Protocols to attend to claims and appeals of the academic community

Bearing in mind that the health emergency will end eventually, HEIs are expected to capitalize on the advances achieved in terms of technological innovation and include a

greater number of virtual courses in their syllabuses. In light of this possible scenario, it is necessary to implement internal quality assurance strategies that will enable them to move out of the emergency modality and advance towards a virtual education. With a view to standardizing these processes, the Organization of Ibero-American States for Education, Science, and Culture (OEI, 2020) prepared a guide, which provides four dimensions to be followed by HEIs to carry out their self-assessment on the quality of distance education:

- **Students:** HEIs should have a well-defined profile of each of their students in order to intervene in cases where it may be necessary to reinforce digital competencies, provide access to connectivity and technological equipment, or adapt teaching processes for students with any kind of disability. HEIs should also provide learning resources, such as online libraries, and enhance tutoring and communication mechanisms to reduce the high rates of dropouts.
- **Academic and support staff:** HEIs should have a continuous learning plan for both teachers and support staff in charge of performing follow-up and accompaniment of students throughout their studies.
- **Infrastructure:** HEIs should be furnished with virtual platforms and security systems to enable the development of virtual activities. For this purpose, the guide provides a wide range of indicators that must be taken into consideration to ensure the continuous operation of this modality. Among these indicators are a number of warning messages issued when the technological equipment is operating poorly, the percentage of warning messages responded to, response times, implementation of disaster recovery protocols, 24-hour attention by the technical support team, etc.
- **Evaluation:** HEIs should implement evaluation mechanisms that ensure the authorship of tests and the effective measurement of the learning results.

## PERU CASE STUDY

The infographic is set against a blue background and contains two main text boxes. The left box is titled 'Legislative Decree N° 1496-2020' and describes a fundamental step in enhancing distance teaching modalities. The right box is titled 'Board of Directors Resolution N° 039 – 2020 – SUNEDU /CD' and details supervision criteria for emergency states, listing four major areas: virtual adaptation planning, virtual adaptation management, technological support, and pedagogical proposals.

Legislative Decree N° 1496-2020	Board of Directors Resolution N° 039 – 2020 – SUNEDU /CD
This represents a fundamental step in the enhancement of distance teaching modalities in the curricular matrices of Peruvian universities, especially towards a post-pandemic scenario. The decree broadens "Article 47 of the University Law" by including distance and blended (or hybrid) education as modalities to render higher education services.	Through this resolution, the SUNEDU poses the supervision criteria to be executed during the state of emergency. In order to ensure that the transition to distance education did not compromise the minimum quality standards, the Board of Directors Resolution No. 115-2020 – Sunedu/CD was subsequently approved, in which the established supervision criteria were updated. Under this framework, HEIs should meet a series of criteria, which revolve around four major areas: <ul style="list-style-type: none"><li>• Virtual adaptation planning</li><li>• Virtual adaptation management</li><li>• Technological support</li><li>• Pedagogical proposal</li></ul>

### 3.2 Which strategies have been implemented to organize non-virtualizable activities (workshops, labs, etc.)?

Even though the transition to virtual education has made it possible to ensure the continuity of the higher educational service, not all courses have been affected in the same manner. In the case of courses that rely on specialized physical spaces such as laboratories or characterized by contents of a practical nature, their virtualization process is more complex than that of mainly theoretical courses (Elhaty et al., 2020). However, there are alternatives that allow students to develop practical abilities and achieve the learning results of face-to-face courses within a virtual environment. Despite the fact that there is not a strategy for all cases as each program faces its own challenges, the following strategies provide mechanisms for adapting those courses with a strong lab component:

- **Hands-on learning from home:** Some HEIs in the United States, for example, Yale University, have mailed lab kits to the students' homes for them to conduct data measurements and experiments remotely. These kits usually include innovative tools such as iOLab or eScience Labs, allowing students to perform measurements, data analyses, and replicate from home the experiments they would otherwise be conducted at an actual laboratory. However, it is important to mention that this mechanism implies a challenge for large classes and institutions with limited resources due to the high cost of the kits and the logistics.
- **Online simulations and labs:** Online simulation and lab mechanisms have increased as they allow most activities that would otherwise be carried out in an actual lab, but

in a virtual environment. Following the line of giving continuity to lab courses, many teachers in STEM areas chose to use off-the-shelf simulators such as PhET, Fritzing, or Multisim Live, which allow them to adapt their courses to a virtual modality (Fox et al., 2020). Even though virtual labs are criticized for being costly tools that require a great deal of digital competencies to be used efficiently, studies show that there are no significant differences between physical and virtual labs in terms of learning outcomes (De Jong, Linn & Zacharia, 2013).

- **Data analysis:** According to Fox et al. (2020), a third option involves adapting the learning objectives and upgrading the data analytics component usually present in lab courses. In this scenario, students can receive experiment measurements, be asked to analyze the database of a scientific publication, or even review sets of open data, e.g. information on the evolution of COVID-19. Despite the fact that it is not the perfect substitute as it does not allow for experiencing the data collection process, the data analysis could end up in a specialized journal paper or a project proposal, approximating the student to the scientific practice and developing critical thinking and research skills (Fox et al., 2020).

### 3.3 How have the evaluation and examination issues been addressed?

The design behind evaluations has a determining influence on teaching and learning processes. For this reason, there is a trend towards integral learning with authentic evaluations, which allow for measuring the theoretical knowledge and competencies of the students and their ability to use what they have learned in practice (Brown & Pickford, 2013). Although distance education has raised concerns due to the increased risk of academic dishonesty and difficulties related to the effective measurement of learning outcomes, the adaptation to e-learning has also promoted good practices that differ from conventional examinations focused on repetition of concepts. Following this line, a report issued by the OECD (2020) mentions the following strategies as good international practices:

- **Redesign of exams:** Issues associated with evaluations under the virtual modality can be solved by redesigning exam formats. In the event online written exams continue to be given, it is possible to reduce any academic dishonest behavior by implementing “open book” examinations using open questions to assess whether the student has the competencies to apply the theoretical concepts. As for limiting interactions between students, some practices highlighted by the OECD include the design of exams with various sets of questions and strict time limits, since with this methodology, the cost of opportunity of dishonest behavior increases.
- **New evaluation models:** The substitution of exams for evaluation methodologies focused on the development of an original product is commonplace in courses given virtually. Among the tools used to redesign the evaluation process are the argumentative essays, projects focused on case studies, researches, presentations, etc. Although these tools are focused on evaluating competencies, it is important to mention that most of them are susceptible to plagiarism and involve a substantially higher load of work for teachers used to giving conventional exams.

- **Online proctoring:** Despite the fact that e-proctoring tools do not provide new evaluation processes, they assist in avoiding identity theft and mitigating the risk of plagiarism through facial recognition and surveillance in the cases where conventional exams continue to be used.

### Admission Exams

The extended period of the health emergency has forced both the national authorities and HEIs to develop mechanisms that allow for students' evaluation on university premises under biosafety conditions. Following this line, a survey conducted in April 2020 by representatives of the UNITWIN Program and *Cátedras UNESCO* (Perez Salgado, 2020) shows a great uncertainty regarding this matter. Although 69% maintained their admission exams, most were postponed while HEIs searched for possible mechanisms to conduct the exams safely. Also, it is noteworthy that in those cases where admission exams were cancelled, the institutions were waiting for an answer from the national authorities or implemented alternative forms of evaluation. The following experiences describe the measures adopted internationally:

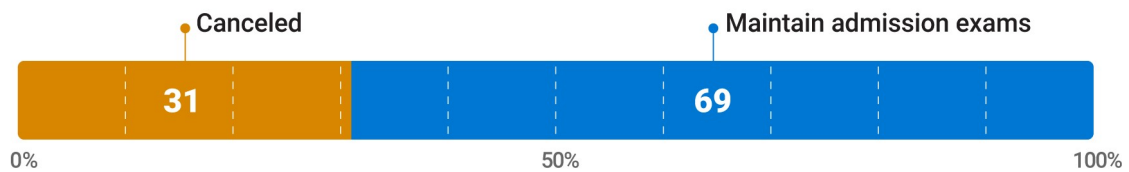


FIGURE 4: Admission exam status

Fuente: UNITWIN-UNESCO, 2020

- **Face-to-face exams:** Although a large part of HEIs have chosen to take alternative measures, there are cases like the “Suneung” of South Korea, which was done completely in person. In this case, the government rolled out a prevention plan with measures that included i) the increase of venues by 50%, where exams could be given, ii) the sanitation of 31 thousand classrooms and tables equipped with acrylic shields, iii) temperature measurements at entrances, open windows, and the mandatory use of face masks, iv) a free PCR testing program for all students up to the day before the exam, v) the supply of separate classrooms for those who show symptoms on the day of the exam, and vi) setting up spaces in hospitals and special centers for students infected with COVID-19 or under quarantine. It is also worth mentioning the exam of the National Autonomous University of Mexico (UNAM), given in open spaces such as stadiums, and the Hungarian admission test, where social distancing of 1.5 m was practiced and the capacity of classrooms was limited to a maximum of 10 students.
- **Virtual exams:** Although there are institutions, such as the Monterrey Institute of Technology (Mexico), that adapted their admission exam to an utterly virtual format,

the path is complex. Its display requires online proctoring tools, which inevitably carry implications in terms of equitable access.

- **Hybrid exams:** This strategy, implemented in the case of the “*Exame Nacional do Ensino Médio - ENEM*” (Brazil), allows students to decide whether to take the exam in person or virtually. As the number of persons within the same physical space is reduced, the hybrid modality makes it easier to keep a distance at exam centers. Also, it reduces the access barriers caused by the lack of technological equipment and connectivity gaps.
- **Alternative mechanisms:** In some cases in which admission exams have been cancelled, innovative formulas have been used to evaluate students in their transition to higher education. In England, for example, the proposal has been to consider the grades obtained in high school as predictors of the results expected in the exam. The use of grades as predictors of the performance in an exam is common in the State of Texas (USA), and recently this method has gained popularity in countries like Chile for its highly predictive power (UNESCO, 2020).

## 4. The Return to a Face-to-Face Modality:

### 4.1 How has the total or partial return to classrooms begun?

Although the return to face-to-face education is somewhat complex and is associated with a high degree of uncertainty, UNESCO (2020) recommends the commencement, as soon as possible, of the planning for the reopening of schools, and also highlights four principles that should guide the national policies:

- **Ensuring the right to higher education:** Governments should develop a normative framework that guarantees equal opportunities and optimal conditions to protect the health of the academic community under face-to-face teaching while respecting the university’s autonomy.
- **Do not leave any student behind:** The temporary closure of HEIs widens the preexisting gaps as responses such as the transition to online education disproportionately affect the most vulnerable populations.
- **Agreement mechanisms:** Both governments and HEIs work together to strengthen the sector’s resilience and design consensual responses in the face of the emergency.
- **Redesigning the teaching and learning processes:** During the interruption of face-to-face activities, important advances were achieved in terms of the use of technological tools. The opening of HEIs should represent a milestone that allows for capitalizing on the learned lessons, promoting blended alternatives, and enhancing pedagogical innovations that have an impact on both quality and equity.

Once HEIs have ensured pedagogical continuity, they will be able to focus on planning for school reopening and restructure their teaching and learning processes (UNESCO, 2020). As for the transition between continuity and reopening phases, it is vital to clearly communicate

the biosafety protocols and provisions to promote compliance. International experiences provide processes and good practices focused on mitigating the risk of new outbreaks associated with returning to face-to-face classes.

- **Nerve Centers:** The pandemic has a disruptive and changing dynamic, which makes it necessary to ensure good planning and expedite response times at HEIs preparing for the return to face-to-face classes. In order to adapt to crisis environments, universities in the United States usually install multidisciplinary committees or integrated “nerve centers” (Illanes, Sarakatsannis & Mendy, 2020). Although each university is a world in itself, these committees should comprise work teams specialized in executing health policies, setting up protocols for faster decision-making, implementing monitoring and data collection systems, university campus operations, and finance and communication strategies.
- **Massive testing programs:** Environments ensuring biosafety conditions should be created to achieve the successful reopening of schools. A recurrent practice in universities that have begun this process is implementing massive testing programs to identify positive COVID-19 cases rapidly. This strategy is usually executed universally on students returning to the campus. The testing can also be done randomly or on those who request it, or even mandatory programs are put in place where routine testing is required throughout the academic cycle (Walke et al., 2020). A study performed by Harvard and Yale Universities concludes that it is possible to return safely to the face-to-face modality if the health measures are supplemented with a policy of mandatory testing every two or three days (Paltiel, Zheng, Rochelle and Walensky, 2020). The authors present three scenarios in which, depending on the infection rate ( $R_t$ ), fast tests are given at a cost per student of USD 120 (weekly), USD 470 (every other day), USD 910 (daily).
- **Contact tracing and isolation protocols:** Looking to reopen the campus, universities must complement massive testing with clear protocols to isolate academic community member who has tested positive for COVID-19 and tracing anyone who has been in close contact with these persons. If HEIs are prepared to provide a quick response, they could break the infection chain. It should be noted that the Centers for Disease Control and Prevention (United States) Guideline (2020) highlights the importance of setting strategies, policies, and processes to slow down the spread among students, teachers, and non-teaching staff.
- **Health prevention measures:** The reopening of schools should be accompanied by health measures that reduce infection risks. In addition to the abovementioned massive testing, contact tracing, and isolation strategies, the Centers for Disease Control and Prevention (CDC) highlights the following measures:
  - ***Use of face masks and hand-washing:*** Wearing face masks must be mandatory, and the availability of hand sanitizers must be ensured.
  - ***Social distancing:*** In order to ensure appropriate physical distancing of 6 feet (1.8m) in classrooms, split groups and schedules will definitely be required, as classes will be given with fewer students in large classrooms. It should be

noted that the health recommendations of the CDC stress the importance of social distancing but does not mention classroom capacity reduction strategies. A simulation conducted by the California Institute of Technology (Caltech, 2020) showed that when the 6-foot distance protocol is applied, a conference room with a capacity for 149 students can only hold 16 students (11% of the capacity). Despite the low figures, a report from Cornell University (2020) shows that classrooms should keep their capacities between 13% and 24%.

- ***Ventilation:*** Promoting air circulation by keeping doors and windows open and placing fans near the windows will increase the flow of air. The simulation conducted by Bartzokas et al. (2021) shows that keeping windows open reduces the density of contaminating particles, and where there is a fan and air purifier, the exposure is reduced considerably.
- ***Consistent disinfection and cleaning:*** Cleaning and disinfecting facilities consistently is of utter importance, especially high-contact surfaces (doorknobs, sink faucets, tables, equipment, etc.). For such purpose, HEIs should prepare a disinfection and cleaning schedule.



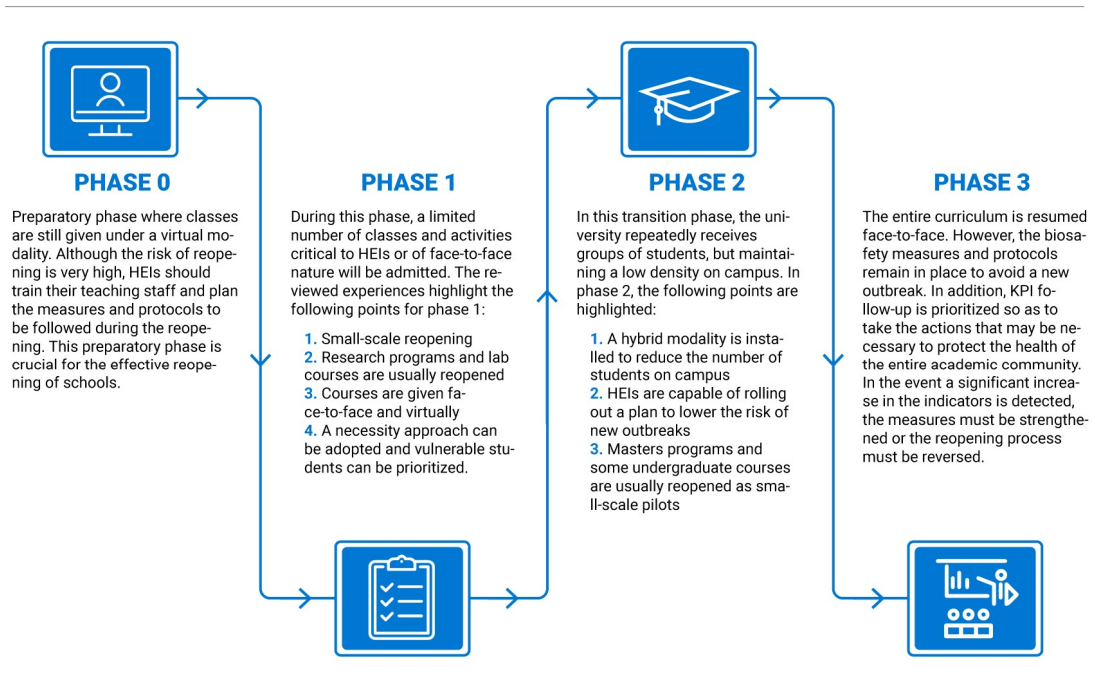
INSTITUTION / COUNTRY	IMPLEMENTED MEASURES
<p><b>DELHI UNIVERSITY</b> (INDIA)</p>	<ol style="list-style-type: none"> <li>1. Face-to-face classes were resumed exclusively for senior year students, whose classes are of practical nature, with a lab component. Theoretical courses will continue to be given remotely. It is worth mentioning that the attendance is voluntary; a maximum of 50% of the students may attend per day, provided they meet the above mentioned characteristics, and the access to the library has been limited to teachers and researchers.</li> <li>2. Even though the pilot scheme will be executed in the months of February and March, trainings and simulations were carried out in January with the teaching staff and non-teaching personnel. In addition, COVID-19 workgroups were set up in each faculty, with at least one senior member.</li> </ol>
<p><b>SINGAPORE</b></p>	<ol style="list-style-type: none"> <li>1. Some universities, such as the N.S.U., have implemented measures focused on preventing and reducing crowds within the university campus. Through an application developed by the university, students must register their temperature on a daily basis and view the level of agglomeration in spaces such as cafeterias in real time. In addition, the student population has been divided into groups, and each group is assigned to campus zones where they can circulate, ensuring social distance.</li> <li>2. Even as these measures may seem too strict, the student population of Singapore is rather cooperative. The student population, in general, is socially responsible and abides by the established rules. Nevertheless, in the event of non-compliance with the protocols, the penalties are severe.</li> <li>3. At national scale, the contagion rate is low. The government offers free testing on a large scale, imposes severe penalties on those who infringe the health measures, and has put in place a response protocol to rapidly isolate those infected with COVID-19 and track their circle of contacts.</li> </ol>
<p><b>UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL</b> (UNITED STATES)</p>	<ol style="list-style-type: none"> <li>1. Apart from the traditional health measures, such as the use of face masks at all times, signs promoting social distancing, and limiting gatherings on campus, UNC Chapel Hill has implemented a massive PCR testing program through the "Carolina Together Testing Program" initiative. Any students attending face-to-face classes must mandatorily be tested twice a week.</li> <li>2. Students must download a Hall Pass application to be able to schedule testing appointments. This application also provides guidance as to how to self-administer the PCR testing, and is necessary to scan the bar code of the kit. 48 hours after self-testing, the result is sent through the app, and in the event the test is positive, the student is contacted by an officer of the UNC Campus Health or the county health department. In addition, the application allows the university authorities to closely follow up on both the compliance with the measures and the number of positive cases in the academic community.</li> <li>3. The university has also developed a public access dashboard through the Tableau software, in which key indicators are updated on a daily basis, allowing to monitor the results of the implemented measures and rapidly assess whether there is a risk of a new spread.</li> </ol>

## 4.2 What are the minimum criteria for the return to the classrooms?

The return to face-to-face classes is a highly complex decision due to the numerous variables and actions to be taken to ensure the health of the academic community. Although various paths can be followed, according to an international consensus, the reopening of university campuses should be gradual. From an utter public health perspective, the CDC (2020) of the United States suggests a three-phase strategy, in which six indicators linked to the health system and the progress of COVID-19 are assessed to determine the appropriateness and level of reopening schools. HEIs should consider meeting a near-zero incidence or a descending curve following the criteria below, during a period of 14 days, in order to begin the reopening process and advance along the different phases:

- New documented cases
- Emergency and/or outpatient cases of diseases similar to COVID.
- Emergencies and/or external consultations for diseases similar to the flu
- Percentage of positive SARS-CoV-2 testing
- Installed capacity: Sufficient health personnel and available personal protection supplies for more than 4 days ( phases 1 and 2) and 15 days (phase 3); ICU beds availability of at least 80, 75, and 70 percent (phases 1, 2, and 3).
- Robust testing programs: Availability of tests ensuring a global percentage of positive testing of less than a 20, 15, and 10 percent (phases 1,2, and 3).

Although a strict follow-up of the 6 health criteria should be conducted at all times to determine whether a facility is or not prepared to authorize more flexible face-to-face activities, the CDC protocol does not describe the implications of each phase for HEIs. In this sense, proposals from a number of institutions such as McKinsey & Company (2020), Kellogg Community College, Vanderbilt University, and the recommendations issued by the State of Connecticut, (2020) present convergence points which could mesh with the characteristics described below.



Source: Compiled by the author

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