

Introduction

The East Asia and Pacific (EAP) region has lifted millions of its citizens out of poverty and achieved middle-income status for its countries. However, the consequences of COVID-19 threaten to erode the important progress EAP countries have made. In the past few months, many higher education systems have been compelled to move operations to online platforms. This shift brought on a range of challenges, but it has also led to innovative initiatives and strategies that are laying the foundation for a 'new normal' in higher education.

Impact and mitigation 1: teaching and learning

Some universities had an 'online forward' approach to teaching and learning prior to the COVID-19 pandemic. For example, Taylor's University in Malaysia states that each of its courses has its own virtual site (similar to a learning management system), allowing online engagement relating to assessments, assignments, peer support, and communication channels with peers and lecturers. Students are kept engaged in their learning by a progress-tracking bar and by earning digital badges. In addition, students have access to a Lecture Capture System (ReWIND), containing a variety of lecture recordings and other learning materials. Large-scale courses also use live streaming and Lightboard Video Technology to record lectures.² Having infrastructure in place makes the transition to remote teaching and learning much easier, as the Zhejiang University in China showed (box 1).

Countries with significant connectivity infrastructure in place, such as the Republic of Korea, have important advantages when it comes to online education. However, even there, concerns have been raised recently about younger learners' access to devices and the internet, and whether students and teachers have adequate skills to engage optimally with software and learning technologies. These concerns are equally relevant in university spaces.³

Box 1. The ease of moving online when digitally adept

Zhejiang University (ZJU) in China moved more than 5,000 courses online in two weeks. The university's focus on creating a smart campus assisted in its readiness to enable such a feat. Since 2017, the 'ZJU Online' project has focused on developing administrative services, online education, academic resources, information bulletins, and personal profiles. In 2018, the university began to build smart classrooms, equipped with audio recognition and interpreting technologies. This technology enabled lecturers to record video courses or live stream their classes during COVID-19.

Key points of advice from ZJU include a greater emphasis on systematic development, efficient internal/external interaction, and governance capacity.

Source:

<https://www.weforum.org/agenda/2020/03/coronavirus-china-the-challenges-of-online-learning-for-universities/>.

Not all universities have moved their teaching and learning online. In Timor Leste, frustrations far outweigh progress. Reflections from a staff member at the Universidade Nacional Timor Lorosa'e (UNTL), points to severely inadequate infrastructure, such as unstable electricity supply, no free Wi-Fi on campus, and internet speed that is 25 times slower than other countries in Asia and the Pacific. In addition, the already insufficient funding the sector receives from government does not enable investment in adequate infrastructure needed to advance the use of technology in education.⁴

¹ Neil Butcher and Sonja Loots are the primary authors, with contributions from Deepali Gupta, Noah Yarrow, Toby Linden, Keiko Inoue, and Kevin Macdonald.

² <https://www.thestar.com.my/news/education/2020/03/29/learning-mustnt-stop-with-covid-19>.

³ Price 2020.

⁴ Chen, 2020

Box 2. COVID-19 and youth unemployment: Refocusing on skills development

The EAP region is headed towards a skills crisis. Prior to the COVID-19 pandemic, young people in the EAP region were facing challenges to enter the labor market. These challenges are worsened by the COVID-19 crisis, and threaten to create a 'lockdown generation' that will bear the consequences of the crisis for some time. Almost half of young workers in the region are employed in the four sectors (wholesale and retail trade and repair, manufacturing, rental and business services, and accommodation and food services) hit hardest by the crisis and youth unemployment rates are rising quickly. Projections paint a dim picture of significant increases in unemployment, with some doubling the 2019 rate.

The International Labor Organization and Asian Development Bank stress the need for governments to adopt large-scale and targeted responses that would include a strong focus on comprehensive labor market policies and minimizing the impact of educational disruptions, particularly for vulnerable youth. Prioritizing the educational and economic contribution of youth will improve the region's prospects for inclusive and sustainable growth, demographic transition, and social stability.

Higher education responses that could contribute to skills development among youth include that of Thailand, that aims to create jobs under the supervision of the universities, with an estimated 100,000 students and 200,000 graduate students incorporated into the program. Universities will not just hire these students, but also have to set up reskilling and upskilling programs (for example, in English and Digital literacy) to better align supply and demand. In addition to higher education, the Technical and Vocational Education and Training (TVET) sectors will play a vital role in skills development. To date, TVET institutions have struggled to adapt to the COVID-19 crisis. They are less likely to have appropriate digital infrastructure to support remote learning and might experience challenges in taking vocational subjects to digital platforms. The pandemic has identified gaps in infrastructure, resource and capacity needs that could inform national and regional policies and interventions to optimize the role TVET sectors play in skills development and mitigating the impact of the COVID-19 pandemic.

Source: Asian Development Bank and the International Labour Organization. *Tackling the COVID-19 youth employment crisis in Asia and the Pacific* <https://www.adb.org/sites/default/files/publication/626046/covid-19-youth-employment-crisis-asia-pacific.pdf>; <https://www.britishcouncil.or.th/en/uk-thailand-transnational-education-development-project-0/conversations-%E2%80%98building-collaboration%E2%80%99-%E2%80%93>

In general, the impact of COVID-19 on teaching and learning has been bittersweet. In the face of infrastructural and digital inequality challenges, the tone of many recent writings is shifting towards acknowledging the innovations that have sprouted from the pandemic, as well as the potential positive impact a 'new normal' could have in a post-COVID world. China, for example, has made more than 30,000 online courses for higher education freely available.⁵ In the Philippines, the Commission on Higher Education has been working with higher education institutions to provide training and capacity building for faculty members on flexible learning, they launched the online teaching and learning resource platform, *PHL CHED Connect*, and coordinating the *CHEd Hi-Ed Bayanihan* digital community, which is a space for educators to share innovative responses in the context of Philippine higher education.⁶

The potential benefits of a more online-oriented higher education system go beyond teaching and learning. In Vietnam, for example, online education is expected to bring some relief to current traffic problems in big cities, students in remote areas will have a better chance to participate in higher education, and collaborative partnerships between national and international institutions in developing and offering joint online programs and degrees could change the way qualifications are structured.⁷ China is feeling the pressure to expand participation in higher education. One challenge to pursue this expansion is the limited space that traditional campuses have to accommodate more students, which can be solved by investing in large-scale online

⁵ Teter & Wang, 2020

⁶ Joaquin, Biana & Dacela, 2020

⁷ Pham & Nguyen, 2020

teaching and learning programs. A further advantage of online studies is that it can stimulate more interaction between students and teachers, which several East Asian studies have shown.⁸ Finally, lecturers in Thailand also comment on the potential of more online-based courses to contribute to lifelong learning, where education has no age limit and people can upskill or reskill whenever they choose.⁹ Ultimately, the COVID-19 experience is stimulating long overdue dialogue about new ways forward for teaching and learning in higher education.¹⁰

Impact and mitigation 2: examinations, admission, graduation

While most graduation ceremonies in the EAP region have been postponed, there are examples of innovative ways in which students can experience and celebrate graduations together (see box 3).

A lingering and growing concern related to teaching and learning is assessment. In Malaysia, summative assessments beyond traditional pen-and-paper forms are almost unheard of, which has forced universities to rethink how assessment can be carried out and, more importantly, whether this is the time to change.¹¹ In Hong Kong, many written examinations were replaced by oral examinations and diversified assessment tasks.¹² In Brunei, all assessments were converted to 100 percent coursework.¹³ Respondents from the Asia and Pacific region to a survey on the impact of COVID-19 on global higher education indicate that around two-thirds of institutions (62 percent) planned to carry out examinations. Among them, almost half (46 percent) planned to administer examinations through new measures. Around 30 percent of Asian higher education institutions were either planning to postpone exams or place them on hold.¹⁴ In Singapore, students in courses that cancelled examinations were allocated grades based on students' existing scores. They were further allowed to receive satisfactory/unsatisfactory scores for these courses so that their Grade Point Average scores would not be affected.¹⁵ Vietnamese universities also introduced flexible measures to allow final-year students a fair opportunity to graduate, including having students work on their theses instead of taking alternative modules as in previous years, receiving online guidance from professors to complete their work and only taking practice tests when they return to campus, and providing students who are eligible to graduate with temporary degrees and transcripts.¹⁶

Box 3. Virtual graduation by remote-controlled robots

With the help of a few remote-controlled robots, tablets, and Zoom, the Business Breakthrough University in Tokyo, Japan, successfully hosted a graduation ceremony. The 'Newme' robots were developed by the ANA Group and controlled by four students and a few administrative staff actually attending the ceremony. Graduates joined the ceremony via Zoom, with their faces screened on tablets positioned as faces on the graduation-gear donning robots. The ceremony included all traditional elements of graduation, but without the risk of all the people in one room together.

Source: <https://www.businessinsider.co.za/university-in-japan-used-robots-for-virtual-graduation-2020-4?r=US&IR=T>.

Another key concern is the impact of postponing final secondary school examinations and university entrance examinations on admissions, which impacts the tertiary pipeline of human capital production. In Hong Kong SAR, China, around 50,000 students take the examinations annually. There are concerns that disruptions in timing might push learners to apply to overseas universities, pursue remote alternatives at other universities, or create a bottleneck in admissions to local universities.¹⁷ Similarly, cancellation of the school exit examinations in Malaysia has raised concerns that this will put students at a disadvantage compared to applicants from other

⁸ Dunrong & Jin, 2020

⁹ British Council, 2020b

¹⁰ Holliday & Postiglione, 2020

¹¹ Wan, 2020

¹² Holliday & Postiglione, 2020

¹³ Suhaili, 2020

¹⁴ International Association of Universities, 2020

¹⁵ Rudolph, Tan, Crawford & Butler-Henderson, 2020

¹⁶ <https://en.vietnamplus.vn/universities-implement-different-solutions-to-ensure-timely-graduation/171440.vnp>.

¹⁷ <https://www.universityworldnews.com/post.php?story=20200325174758462>.

countries when it comes to securing limited public university spots.¹⁸ Korea has pushed back its college entrance examinations scheduled for November, as concerns persist over a possible resurgence of COVID-19.¹⁹

Students' experiences

Student respondents from the EAP region to I-graduate's COVID-19 survey report higher satisfaction with institutional responses to the pandemic in Thailand (86 percent), Malaysia, and Singapore (both 79 percent) than the global average of 70 percent.²⁰ Other benefits noted by respondents to the Australian Domestic Student Survey and a Korean university student satisfaction survey include the flexibility of online study in 2020, saving time by not travelling to campus, and minimizing contact with people, although some Australian students reflected on missing out on campus-based opportunities for social interaction.²¹

Other research on students' experiences highlight some of the challenges they faced during 2020. In Korea, a survey of almost 3,000 students show that their main concern is poor teaching quality, particularly a lack of technical and online pedagogical skills, followed by complaints about tuition fees.²² In Indonesia, three quarters of the 206 student survey respondents from 12 Indonesian universities considered online learning during the COVID-19 pandemic to be worse than regular face-to-face learning. Explanations for this include the culture shock of moving to remote learning, struggling to adjust to independent time management, lacking appropriate access to devices or internet, and less interactive engagements with teachers and fellow students.²³ Finally, a common theme across respondents from Thailand, Singapore and Malaysia is a wish for an adjustment of fees if students do not have the same access to facilities that they had pre-COVID.²⁴

Equity and infrastructure

Inequality is a major concern in the EAP region. National poverty rates in EAP countries differ widely. At the lower end of the poverty spectrum are Malaysia (0.4 percent), China (1.7 percent), and Vietnam (7 percent), while countries such as Timor-Leste (42 percent), Papua New Guinea (40 percent), and Micronesia (41 percent) show higher poverty rates.²⁵ Digital inequalities persist, even in countries with lower economic disparities. Only three countries—Singapore, Brunei, and Malaysia—have over 80 percent internet penetration. In Thailand and Cambodia, less than 60 percent of the population (57 and 50 percent, respectively) has access to the internet, while around 40 percent of the Myanmar and Vietnam populations have access. Prior to 2020, 74 percent of Indonesian households had access to the internet, although reports of individual internet usage was lower at around 50 to 60 percent. It is estimated that individual use increased by almost 10 percent during 2020.²⁶ The digital divide, however, is about more than just access to the internet. It also extends to the reliability, speed, and affordability of internet/data access, as well as having access to electronic devices and the skills to optimally make use of such devices. Inequalities tend to intersect, with the most vulnerable often facing more than one disadvantage, thereby amplifying the impact. In Indonesia, for example, male students

¹⁸<https://www.malaymail.com/news/malaysia/2020/04/13/cancellation-of-matriculation-semester-ii-exams-creates-unfair-university-a/1856138>

¹⁹<https://www.japantimes.co.jp/news/2020/03/31/asia-pacific/south-korea-open-schools-online-reschedule-college-exam/#.XptWBegzblU>

²⁰ <https://www.tribalgroup.com/blog/asean-institutions-set-high-standards-in-their-response-to-covid-19>

²¹ [https://www.qs.com/portfolio-items/australia-domestic-student-survey-2020/;](https://www.qs.com/portfolio-items/australia-domestic-student-survey-2020/)
<https://olc.worldbank.org/system/files/Higher%20Education%20During%20COVID-19%20-%20Early%20Lessons%20from%20Korea%20%28Presentation%29.pdf>

²² <https://www.hankyung.com/society/article/2020090691531>

²³ Susilana, Hutagalung & Sutisna, 2020

²⁴ <https://www.tribalgroup.com/blog/asean-institutions-set-high-standards-in-their-response-to-covid-19>

²⁵ World Bank 2020.

²⁶ [https://www.channelnewsasia.com/news/commentary/coronavirus-covid-19-malaysia-indonesia-school-e-learning-online-12616944;](https://www.channelnewsasia.com/news/commentary/coronavirus-covid-19-malaysia-indonesia-school-e-learning-online-12616944)
BPS Statistics Indonesia, 2019; <https://jakartaglobe.id/tech/indonesia-has-197-million-internet-users-in-2020-apjii-survey-shows>

from rural areas tend to drop out of school to find work. Concerns are that the larger economic impact of COVID-19 on households will increase this behavior, as young people might feel obliged to contribute to the family's economic stability. The same concerns may be relevant for students enrolled in higher education.²⁷ Young people from low-income Thai populations only have a 5 percent chance of getting into higher education, about six times below the national average. These existing equity gaps are exacerbated by the pandemic and will likely influence the opportunities vulnerable students have for some time beyond the pandemic.²⁸

Box 4. Loaning devices to bridge digital inequality

With many school learners without devices to study at home, or struggling with out-of-date devices, Singapore has loaned around 12,500 laptops or tablets, as well as 1,200 internet enabling devices, to school learners. Low-income families can also apply for subsidized computers and free broadband services.

Source:

<https://www.channelnewsasia.com/news/singapore/covid19-laptops-schools-moe-education-home-based-learning-12658828>.

Most reports provide similar narratives to that of the Philippines: 'Some of the schools have transitioned to online learning, but it has been challenging for students without access to internet.'²⁹ Responding to inequalities has proven difficult. Many institutions or governments have resorted to a loan system to provide students in need with appropriate devices (see box 4). Similarly, responses to digital inequalities in Vietnam resulted in a range of specialized policies pertaining to fee reduction, support to purchase laptops, and accessing broadband internet. Yet, despite support for infrastructure and devices, some students living in remote or isolated areas could not keep up with the rapid technological changes and institutions had to rely on more traditional distance education techniques to ensure their continued participation.³⁰

Box 5. Collaborative partnerships as an outcome of COVID-19

Since early 2020, NYU Shanghai has been engaging in around 300 courses via digital technologies. In a collective effort, the University has developed a Digital Teaching Toolkit to help others ensure high quality teaching and learning. The Toolkit website reviews a variety of technological support structures, and includes tools, instructional materials, and tips. It also includes a guide to the various digital tools and software recommended by the NYU Shanghai Library's Research and Instructional Technology Services (RITS) team, complete with their various strengths and weaknesses. The toolkit also helps professors match their preferred modes of digital instruction with appropriate technologies.

Collaborations with the private sector have also strengthened during COVID-19. Many governments have partnered with Internet service providers to provide data packages or free access to learning support websites. In Vietnam, nine national and international businesses have offered special deals to support to the government in the form of infrastructure or access to digital or educational platforms.

Sources:

<https://shanghai.nyu.edu/news/nyu-shanghai-makes-digital-toolkit-available-fellow-universities-going-online>; Digital Teaching Toolkit: https://wp.nyu.edu/shanghai-online_teaching/; Ministry of Education and Training, Vietnam. 2020. Offered support for training institutions in e-learning due to the impact of COVID-19 pandemic

Staffing

Technological aids, infrastructure, and access concerns, as well as the anxiety accompanying moving to online platforms, dominate reporting. Underreported though is the considerable impact that such changes have on lecturers, who, in many cases, need to: refocus and rethink curricula, engagement, and assessment; learn to

²⁷ <https://www.thejakartapost.com/academia/2020/04/07/covid-19-how-will-it-affect-human-capital.html>.

²⁸ <https://www.universityworldnews.com/post.php?story=20201120100921758>

²⁹ CNN Philippines 2020.

³⁰ Hiep-Hung Pham & Tien-Thi-Hanh Ho. 2020

use software and technology well enough to optimize these platforms for learning and teaching; and make sure that all their students are included and are coping. In Vietnam, initially around half of public and private higher education institutions moved to remote learning. Teachers were trained via online workshops and those not proficient in modern technology received private tutoring at home.³¹ Examples of how lecturers in EAP countries are supported, how they take the initiative, and the lessons they have learned along the way are shared in boxes 5 and 6.

Box 6. Supporting lecturers in moving online

When the Singapore Institute of Technology moved to e-learning, some lecturers already had experience in online or remote teaching, but some did not. Moving everything online required considerable preparation. According to the Institute, some of the key factors that helped the transition include:

- *A consistent, whole university approach.* Selected teaching support technologies were made available to all teaching staff and students. These key tools provided some consistency so that students were neither confused nor rushed into learning different tools.
- *Ensuring learning outcomes were uncompromised.* Alternative assessment methods were needed to assess the same learning outcomes. A policy was drafted to introduce flexibility with faster approval routes for changes that were needed.
- *Being student centered.* It remains important to engage learners. Lecturers showed some innovativeness through conducting live streaming classes and using polls and quizzes to engage learners. In addition, arrangements were made for students who did not have access to a laptop to borrow one.
- *Clear, frequent communication.* It was key to understand concerns at different points in time. An initial university-wide survey was undertaken just before e-learning commenced, to inform staff of student needs and fears. A follow-up survey through student management committees two weeks after moving online enabled further tweaks to improve the experience. Communication channels were also important for staff and students to see and share each other's concerns and experiences.
- *Making training available in through a multitude of tools.* Training resources were provided to staff and students to help them make use of tools and prepare them to learn in an online environment. Academic advisers also spent time talking to students about topics such as time management, managing procrastination, and recognizing that the online learning environment could be distracting for some students.

Source: Lim, M. 2020. Educating despite the Covid-19 outbreak: lessons from Singapore. <https://www.timeshighereducation.com/blog/educating-despite-covid-19-outbreak-lessons-singapore>.

Internationalization

The impact of COVID-19 on the internationalization of higher education is a key concern. China is the biggest contributor of international students to regions such as the United Kingdom and Australia. A survey of almost 11,000 Chinese students studying in the United Kingdom revealed that around 40 percent are undecided about whether they will return to complete their studies, while 13 percent already indicated that they do not plan to return.³² Australia faces a similar concern. With international students contributing around US\$31 billion to the national economy and 40 percent of the Australian higher education system relying on revenue generated from international students, universities and the government are under pressure to devise plans to keep these students. While the first international students recently returned to Australia after an eight-month exclusion period, projections indicate a significant decrease in income from international students at least in the next couple of years.³³

³¹ Hiep-Hung Pham & Tien-Thi-Hanh Ho. 2020

³² British Council 2020.

³³ https://thepiencenews.com/news/aus-nt-welcomes-first-international-students/?mc_cid=9e3b0fba29&mc_eid=eccb5ba16c;
<https://westpaciq.westpac.com.au/Article/43639>

For international students heading to China, at least three of the country's top universities have cancelled entry examination requirements for overseas students.³⁴ This might ease the entry process and attract more students. Top Vietnamese institutions have also seen significant increases in applications from local students, who under different circumstances, might have moved abroad to study.³⁵

Financing (student financial aid / institutional financing)

The financial implications of COVID-19 extend from immediate concerns about the welfare of students and staff to longer-term, sector-wide concerns about support needed to recover from the effects of the pandemic. Some countries are helping students affected by the pandemic. For example, in Malaysia, many students were stuck on campuses under the government's Movement Control Order. Certain institutions in Malaysia were using disaster relief funds to support students locked in on campuses,³⁶ and distributing food and other necessities to ensure their well-being.³⁷ Some institutions in Vietnam are providing scholarships to students with families most badly affected by the pandemic.³⁸ In the Philippines, institutions are considering whether they should refund student tuition fees,³⁹ while 52 Thai universities have pledged to reduce tuition fees to relieve pressure on students.⁴⁰

COVID-19 also poses a high risk for job losses and decreased tuition revenue. There is also an increasing possibility of long-term impacts related to future budget constraints. Several universities across China have announced reductions in research funding and other expenses due to the economic impact of COVID-19.⁴¹ The increasing probability of international students not returning to their host institutions, or enrolment targets not being met because of administrative changes in school exit examinations or admission criteria, could have dire consequences, particularly on already struggling or vulnerable systems. The Malaysian private higher education system is such an example. The return of international students and meeting enrolment targets will determine whether institutions stay open and staff stay employed.⁴² Economies in the region are expected to experience slowed or even negative growth, making it likely that lower tax receipts will be available to finance government contributions to public universities as well, while sectors such as health are expected to consume higher-than-usual portions of government spending. Private institutions that depend on tuition fees as the main source of income are most at risk. With private institutions making up half of the world's postsecondary institutions, the impact on the greater higher education sector will likely be significant.⁴³ In Cambodia, as elsewhere, higher education institutions must continue to pay ongoing running costs, including staff salaries, even though there has been pushback from families who argue that the altered delivery of education to students should mean reduced tuition fees.⁴⁴

Quality assurance

Some institutions acted quickly to develop policies guiding teaching and learning, assessment, and other practices, while others already had e-learning policies in place. However, the pace at which contact courses had to be transformed into remote learning courses leaves space for questions around quality. Normally, developing online courses would require inputs from a team of experts, including academics and instructional designers. Many lecturers and students have resorted to a process of trial and error to work out how to best

³⁴ <https://www.universityworldnews.com/post.php?story=20200516103143843>

³⁵ <http://www.vnu.edu.vn/ttsk/?C1654/N27279/Bien-kho-khan-thanh-co-hoi-vang.htm>

³⁶ <https://www.malaymail.com/news/malaysia/2020/04/13/cancellation-of-matriculation-semester-ii-exams-creates-unfair-university-a/1856138>.

³⁷ <https://www.malaymail.com/news/malaysia/2020/04/13/cancellation-of-matriculation-semester-ii-exams-creates-unfair-university-a/1856138>.

³⁸ <https://vietnamnews.vn/society/715236/universities-provide-scholarships-to-ease-burden-on-disadvantaged-students.html>.

³⁹ <https://www.rappler.com/nation/257938-ched-universities-colleges-decide-tuition-fee-refund-coronavirus>.

⁴⁰ <https://www.universityworldnews.com/post.php?story=20200418113853953>.

⁴¹ Yang, 2020

⁴² <https://www.asiasentinel.com/p/the-collapse-of-malaysian-private>.

⁴³ Altbach & De Wit, 2020

⁴⁴ <https://www.universityworldnews.com/post.php?story=20200623154410596>

implement online learning during the pandemic, leading to potential short-term disruption to the learning and evaluation processes. Other challenges potentially affecting the quality of remote learning during COVID-19 include students' possible lack of self-motivation to learn independently, or a lack of training for students and staff needed to engage optimally in remote learning technologies, software, and other processes.⁴⁵ The pandemic has also urged reflection on outdated policies. In Korea, for example, the Ministry of Education was recently required to confront a policy that had previously prevented all universities from providing more than 20 percent of classes online.⁴⁶

Outlook and recommendations

Persistent waves of new COVID-19 infections make it difficult to estimate when campuses will reopen. In Vietnam, a three-month period without any local transmission of COVID-19 was broken at the end of November 2020 as new cases required higher education institutions to resume online learning.⁴⁷ Similarly, universities in Malaysia were asked to move courses and registrations online on the day the new academic year was set to start and international students' entry into the country was postponed until 31 December 2020 – a particular concern for private institutions that rely on international students.⁴⁸ While many higher education institutions are still grappling with the challenges resulting from closures or moving to remote learning platforms, several reports are moving towards using this experience to influence systemic change. Cambodian higher education, for example, has developed a range of policy interventions in the past few years to improve enrolments, staff capacity and the quality of education. The pandemic has shed light on the necessity to expand the policy base to include ICT infrastructure as well as investing in human capital to advance the economy in the 4IR.⁴⁹ Similar realizations of policy gaps happened in Thailand, where the Thai government has developed a number of policies to advance digital infrastructure, skills formation, and target industries towards the 4IR, but realized through the COVID-19 pandemic the need for broader educational reform, including teacher's qualifications, training programs, curriculum development to teaching pedagogy and examination methods.⁵⁰

Remote or, at the very least, blended teaching and learning, is likely to remain the reality for most higher education institutions in the immediate future. Korea is moving towards a hybrid system, where the best features of online and face-to-face education are combined to optimize teaching and learning.⁵¹ Speaking at the World Access to Higher Education Day conference, the Chairperson of the Philippine Commission on Higher Education noted that 'from now on, flexible learning will be the norm. The old paradigm of face-to-face versus online will disappear. In its place is a flexible system that will move across options throughout a student's life and university years.'⁵² E-learning has been one of the fastest-growing markets worldwide, yet, until now, it has played a peripheral role in higher education sectors of most EAP countries. This is likely to change at a swift pace.

Other opportunities emerging from the pandemic include increased collaborations between institutions and the private sector, as well as moving the focus from *how* students are taught to *what* institutions are teaching, reflected in efforts to create more interdisciplinary qualifications.⁵³ An important lesson from the COVID-19 emergency response is that access to devices and infrastructure is only part of the solution. For more flexible

⁴⁵ <https://theconversation.com/coronavirus-universities-are-shifting-classes-online-but-its-not-as-easy-as-it-sounds-133030>.

⁴⁶ Hong, 2020

⁴⁷ <https://e.vnexpress.net/news/news/100-000-students-asked-to-stay-home-as-universities-deal-with-fresh-covid-19-outbreak-4200390.html>

⁴⁸ <https://www.timeshighereducation.com/news/malysias-u-turn-reopening-campus-leaves-students-lurch>;
<https://monitor.icef.com/2020/10/malaysia-orders-universities-online-and-restricts-foreign-student-entry/>;
<https://www.universityworldnews.com/post.php?story=2020120216283461>

⁴⁹ <https://www.universityworldnews.com/post.php?story=20201020094948838>

⁵⁰ <https://thegeopolitics.com/thailands-covid-19-education-crisis/>

⁵¹ <https://www.weforum.org/agenda/2020/11/lessons-from-south-korea-on-the-future-of-online-education/>

⁵² <https://www.universityworldnews.com/post.php?story=20201120100921758>

⁵³ <https://www.cnbc.com/2020/10/21/how-the-national-university-of-singapore-has-adapted-for-the-pandemic.html>

and technologically advanced education systems to flourish require long-term thinking and systematic transformations.

The World Bank's COVID-19 crisis response⁵⁴ identifies several longer-term challenges that the higher education sector in general could face beyond the pandemic. Those that relate directly to the EAP region include:

- *Increased or more pronounced inequalities.* Currently, the move to remote learning has already exacerbated inequalities between those with and those without access to devices, infrastructure, skills, technology, and the internet. In future, it is expected that students already experiencing socioeconomic hardships will be less likely to return to university because of increased financial and situational constraints (including family obligations, changes in personal circumstances, and support networks diminished or dismantled by campus closures).
- *Reduced public and private funding for higher education.* In response to greater funding demands from the health sector to deal with the pandemic, as well as general economic contraction, public and private funding intended for higher education might either be redirected or significantly reduced for some time.
- *Permanent closures of programs and institutions.* Rapid expansion of higher education in the EAP region resulted in the establishment of many smaller and private institutions, both of which depend heavily on tuition fees for revenue. The expected reduction in funds to support the sector could lead to the closure of such institutions.
- *Reduced mobility in higher education.* A shift in demand for local, international, and remote programs is expected, which will have an impact on different aspects of the sector, including competition for placements.
- *Quality issues.* Concerns about the quality of remote learning, particularly if not guided by policy and accountability measures, might lead to an increase in graduate unemployment. Further, diminished learning and student failure could have implications for the quality of knowledge, skills, and proficiencies of graduates.
- *Less collaborative, international research.* This would also imply less research funding and accompanying international recognition.

In response to these and other challenges, the following are recommended.

Strategic directions for institutions

1. *Diversify funding.* Seek diversification of financing sources, including working with private sector partners, foundations, multilaterals, and international organizations.
2. *Develop infrastructure.* Tertiary education systems could emerge stronger if they take this opportunity to develop digital infrastructure focused on more agile and flexible systems. This could take place through the strategic allocation of institutional funding to expand and update technological infrastructure for digital pedagogy, investing in learning science, and training of faculty members. Institutions, staff, and students who are equipped with good infrastructure, resources, and skills, and who were already engaged in a culture of using technology for teaching and learning, had a much easier transition to remote learning. Investing in collaborations known as National Research and Education Networks (NRENs) with infrastructure providers could also have widespread benefits.
3. *Increase collaboration.* Investing in public-private partnerships could tackle many challenges related to accessing innovative technologies, infrastructure, and digital skills training.⁵⁵ Many organizations, including the World Bank and UNESCO, have shared a range of resources for countries to use.⁵⁶ Building collaborative relationships with open universities could also guide policy and practice related to quality.

⁵⁴ <http://pubdocs.worldbank.org/en/621991586463915490/WB-Tertiary-Ed-and-Covid-19-Crisis-for-public-use-April-9.pdf>.

⁵⁵ <https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-is-reshaping-education-and-what-changes-might-be-here-to-stay/>.

⁵⁶ For example, <https://en.unesco.org/covid19/educationresponse/solutions> and <https://www.worldbank.org/en/topic/edutech/brief/edtech-covid-19>.

4. *Position universities as critical contributors to national priorities.* Beyond the need for specialist research, resources, and knowledge to combat COVID-19, the EAP region is often plagued by environmental challenges. Universities could be critical partners in tackling challenges affecting all sectors of society.

For policy and accountability

5. *Coordinate national efforts to develop infrastructure, digital skills training, and other technical capacities.* Such policies might already exist in advancing countries toward the 4IR, but they need to be revisited with lessons learnt from the COVID-19 experience.
6. *Develop and implement quality assurance regulations for flexible learning,* while adding aspects of accountability and transparency.
7. *Draft policies on the ethics and security of technology.* Cambodian citizens have raised concerns about a new policy allowing the government unlimited surveillance of telecommunications and control of media and social media.⁵⁷ Policies guiding the extent of democracy, privacy, and the rights of citizens need to guide ethical use of technologies, even during times of crisis.
8. *Implement data management and quality measures.* More data require better ways of managing data.
9. *Tackle the digital divide in policies.* Arguably the widest referenced challenge experienced in implementing remote learning in EAP and other regions is the digital divide. Students from poorer families, living in rural areas, or who are marginalized in other ways, are often excluded from innovations. This should be kept in mind when introducing new measures to advance flexible learning pathways. Other initiatives that could be considered to enhance equity include assessing the terms, conditions, and scale of student loans and grant programs, and greater provisioning of no-cost educational resources for institutions serving disadvantaged populations or providing dedicated additional support programs for vulnerable students.

For teaching and learning

10. *Flexible learning pathways.* Introduce more aspects of flexible learning into regular face-to-face courses. In addition, introduce a variety of courses to complement national skills needs.
11. *Invest in low-tech innovations.* Parallel with investments in high-tech approaches to advance flexible learning, universities should also consider developing low-tech innovations. With an expected decline in government funding, compounded by potential losses of income through a decline in student fees, it is important for universities to think innovatively about implementing low-tech options, sharing technologies and resources, or even optimizing the use of existing learning management systems.
12. *Create new opportunities for national and international students* by expanding online options for potential international students and introducing virtual exchange alliances and virtual internships. Universities across the globe will have to consider how they can access the market for shorter courses, micro-credentials, or digital certifications.⁵⁸
13. *Ensure that university teachers and students are appropriately trained in educational technology.* For teachers, this will include training beyond technical capabilities to include the integration of pedagogy and technology.

⁵⁷ <https://thediomat.com/2020/04/cambodias-lost-digital-opportunity-in-the-covid-19-fight/>.

⁵⁸ <https://www.universityworldnews.com/post.php?story=20200403133447141>.

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