ILO-UNESCO-WBG Joint Survey on Technical and Vocational Education and Training (TVET) and Skills Development during the time of COVID-19

MAY 2020

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Preliminary results of the on-line survey

The purpose of this joint global survey is to gather good practices and allow knowledge sharing to help countries mitigate the effects of the COVID-19 pandemic on TVET and ensure continued skills development. The survey targets:

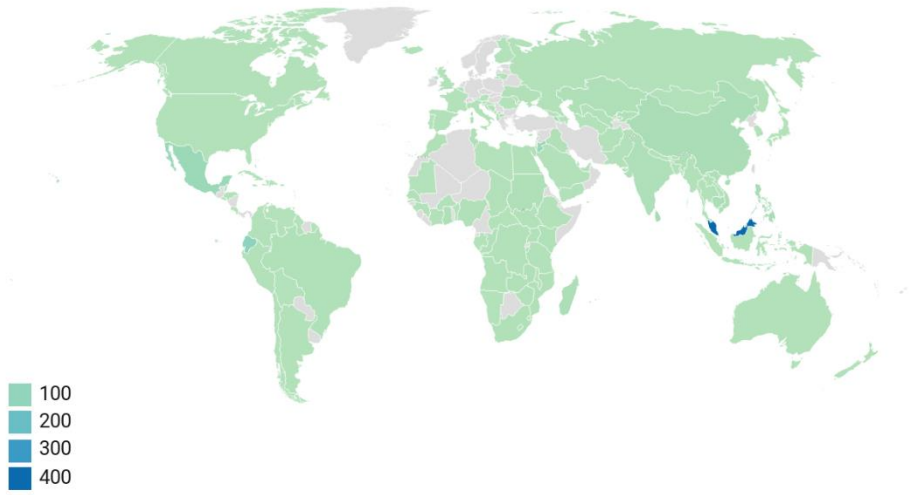
- providers of initial and continuing technical and vocational education and training
- policy makers (such as Ministries of Labour and Education)
- social partners (employers and workers organisations)

The collected information can help countries address the crisis' impacts on training, manage the learning and training processes more effectively, and increase resilience during the pandemic.

Section I - Who are the respondents of the survey so far?

At the end of the sixth week, as of 15 May 2020, the survey has received 1,349 responses from 126 countries.[1] The distribution of the respondents is shown in Figure 1.

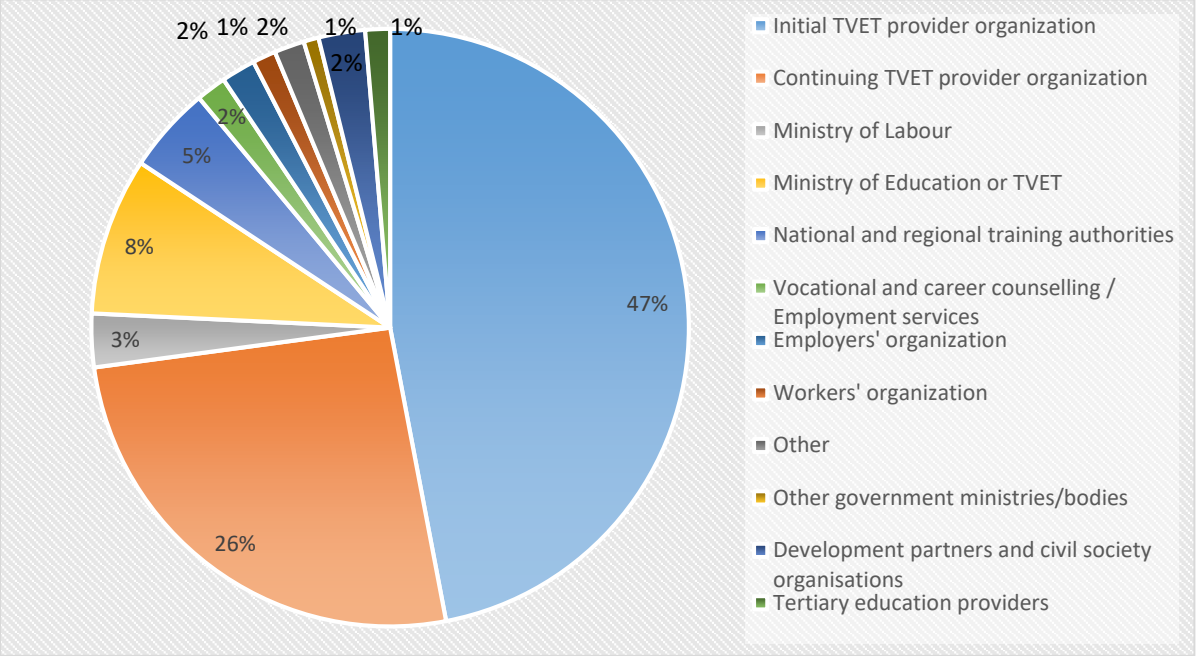
Figure 1: Distribution of Responses



While the respondents represent a wide range of organizations (Figure 2), the highest proportion of responses were received from initial and continuing TVET providers. These two categories represent roughly 73% of the respondents.

[1] Notably, respondents from one country – Malaysia – currently comprise 30% of all the responses received. This factor is controlled for in the country-level analysis presented in the report.

Figure 2: Respondent Profile

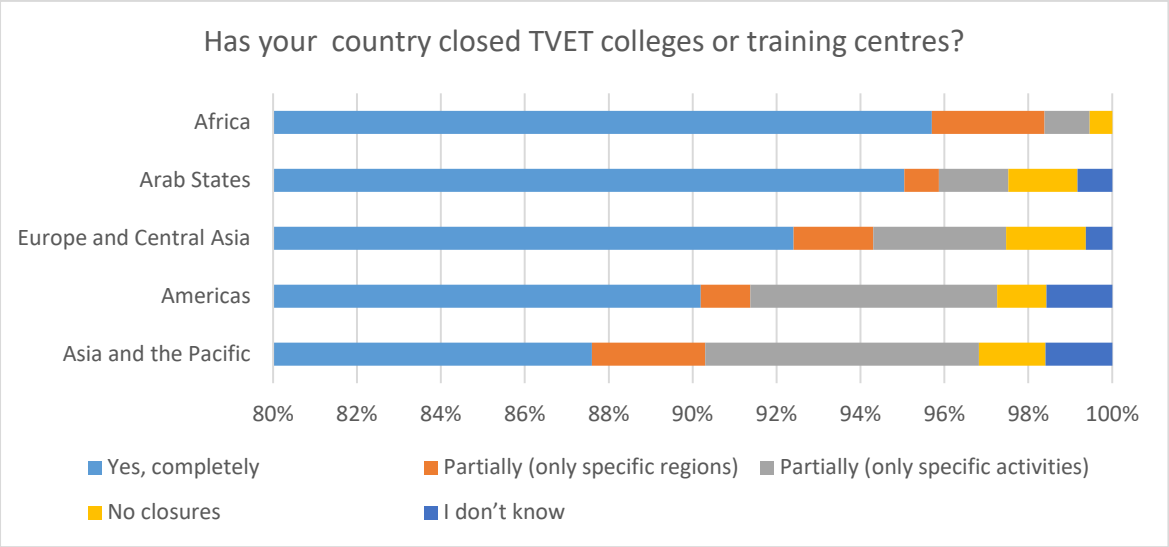


Section II – The immediate effects of the COVID-19 pandemic on TVET provision

- As of 15 May 2020, around 90% of respondents reported complete closure of TVET centres and centres in their countries as a response to the spread of the pandemic. In 114 countries (out of 126), complete closure is reported by the majority of the respondents.[2] Partial closure was more commonly reported by respondents in some regions, mainly Asia and the Pacific, Americas, and Europe and Central Asia (Figure 3). Countries reporting partial closure include Brunei Darussalam, Cambodia, China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Thailand, Vietnam, as well as in Australia, Ecuador, Egypt, Finland, Iraq, Kazakhstan, Kiribati, Lebanon, Mozambique, Nigeria, Pakistan, South Africa, Trinidad and Tobago, Turkmenistan, Ukraine.
- As result of the TVET centre closure, many respondents indicated disruptions in the provision of training. Trainers face many obstacles when providing training. Respondents pointed out that trainers lack the skills necessary for remote training, need time to prepare videos or online training, and have low access to internet. Respondents also expressed concerns that the current situation is likely to lead to increased drop-out rates as some students become demotivated. Respondents also pointed to low internet access and lack of equipment among poor students as key impediments for remote learning. Another general concern arising from respondents is that the closure of businesses prevents students from carrying out practical training, a critical aspect for TVET.

[2] This calculation must be interpreted with caution as about a third of countries have only one respondent. Also, it must be noted here that in some countries, respondents provided different information concerning complete or partial closure of TVET institutions, a result that will be clarified as further validation of results is undertaken.

Figure 3: Closure of TVET centres by region



Note: Africa (186 respondents); Arab States (121 respondents); Europe and Central Asia (158 respondents); Americas (255 respondents); Asia and the Pacific (629 respondents).

- In addition to class and laboratory-based training, the delivery of work-based learning, including apprenticeships, is facing serious disruption from the lockdowns imposed on enterprises. Respondents from Indonesia, for example, indicated that no other crisis has affected apprenticeship programmes to this extent before.
- In most countries where essential enterprises remain open, on-job training activities have either stopped or continue to be conducted in restricted numbers with stricter sanitary measures.
- Some country examples from the survey responses have been described below.

    - Respondents from Uganda and Ukraine noted that the sudden onset of the crisis meant there was little opportunity to develop contingency measures to ensure continuity of training.
    - Respondents from Italy, severely affected by the pandemic, also reported a complete rupture of training activities with no clear plan of restarting activities.
    - Respondents from Nigeria reported that due to the lockdown, class sizes have reduced drastically, as students are unwilling to come to the centres and communication with students has been significantly affected.
    - Respondents from Australia reported that while some workplaces employing apprentices are still operating in the construction, manufacturing, and personal services sectors, there has not yet been a coordinated response to the challenge of how to incorporate work-based learning in distance learning.
    - Respondents from DRC and Chad highlight the loss of financial viability of training centres owing to the loss of clients of the centres' activities, inability of parents to pay fees and thus the cutback of salaries of trainers. This also means fewer new enrolments.

- The respondent from Burundi reports that even though training centres remain open the closure of borders has affected the access to necessary materials required for practical classes.
- Respondents from Cambodia reported the difficulties in the training delivery as some subjects need hands-on practice with teacher's guidance, such as electricity, automotive, civil engineering.
- In Bhutan, many respondents reported interruptions of regular classes and the inability to deliver practical lesson even though some are exploring means to adopt distance learning tools.
- Respondent from Bosnia and Herzegovina highlighted that apprenticeships and work-based learning are completely stopped. The students will end the school year based on the 60% of the curriculum they had completed before the outbreak of COVID-19
- Respondent from Finland highlighted that some professional fields have been hit harder than others, due to closures of work places. For example, for work-based learning and apprenticeships, most affected fields of profession are in the service sector, gastronomy, trade and technical fields.

Lack of distance learning infrastructure - internet, connectivity, platforms, resources, and capacities of teaching and learning

- Respondents from India reported that due to lock downs, neither trainees nor staff can come to training centres as they are confined at home. While trainers and trainees are motivated to explore new ways of learning, they have highlighted several challenges related to online learning including poor connectivity, increased costs for students due to data usage, usability of learning platforms, student friendly content and most importantly, regulatory acceptance of online mode of training. In addition, cash flow and financial viability concerns among small TVET providers were mentioned.
- Respondents from Morocco report of a lack of preparedness of teachers, students and even parents with regards to distance learning in addition to the lack of access to internet and devices.
- Respondents from Ecuador inform of the lack of digital preparedness to allow a smooth transition into a distance mode of training. Lack of an appropriate platform deprives students and teachers of an effective common space to work and leads to errors.
- Respondents from Côte d'Ivoire highlighted some trainers live in remote areas so that governments measures don't allow them to follow the online courses or through the TV.
- Respondents from Trinidad and Tobago the difficulties to migrate all training courses to an online platform mainly because of lack of distance learning equipment for both students and teachers.
- The lack of preparedness of teachers and students for online training is also reported by a respondent in India due to low network coverage.

- In Kenya, a respondent thinks that if e-learning infrastructure, skills and culture was in place, then training would proceed with minimal disruption.
- Respondents from Sri Lanka reported that although some online courses are offered, participation rates are still low due to students' lack of access to digital equipment and internet.

Lack of motivation of students and teachers

- Respondents from Canada reported that the motivation of some students, especially in programmes with an emphasis on practical activities in laboratories and workshops was greatly affected due to the increase in more passive methods of engaging with content such as reading, videoconferencing, watching demonstrations, videos, etc. Teachers there also experienced challenges in quickly reorienting their training strategies and this created a great deal of stress, pressure and anxiety. In addition, delays in the completion of studies may result for some students in the need to apply for an extension of the study permit and require additional fees.
- Respondents from Kyrgyzstan reported that since adopting different distance learning tools, teachers face a heavy workload with new teaching methodologies and increased messages and questions from students at all hours.
- Respondents from China noted that distance learning, both online or offline, affected students' motivation and engagement. Although most courses continue to be delivered, it takes time for teachers and students to adapt to the new online learning method.
- Respondents from Australia report that while remote delivery has commenced for a lot of students, maintaining student engagement has been challenging.
- Respondents from Tunisia and Ecuador report that uncertainty regarding the end of the current school year and entry into the labour market is a cause of anxiety among students, affecting their willingness to continue learning.
- In Nigeria, a respondent indicated the delay in the acquisition of hands-on practical experience due to the closure of businesses. That might disturb and demotivate students as their learning process has been interrupted.
- In Lebanon, both trainers and students are reported to be demotivated due to the delay in starting the programme. Respondents from Zimbabwe and Jordan reported that due to uncertainty about the duration of the crisis, and whether there will be a catch up programme, students feel confused and demotivated.
- Respondents from Peru reported that it is difficult to train teachers, monitor progress and maintain the quality of training simultaneously.
- Respondent from Finland reported that according to the survey conducted by Finnish TVET student associations (Sakki and OSKU) which focused on TVET and students' experiences in distance learning, half of students reported that during the closure, learning had become more burdensome.

Postponement of practical training modules

- Respondents from Belgium advised that upcoming face-to-face training activities have been postponed until further notice.

- Respondents from Madagascar and Kenya raised concerns that the skills acquired in class since the beginning of the school year might be partially forgotten; trainers will be obliged to go back to the courses already completed for a recap and to ensure the completion of the curriculum.
- Respondents from Malaysia, Lesotho, Iceland, India and many other countries reported that distance learning is mostly focussing on theoretical classes, while practical modules are being postponed. While this seems to be a logical short-term crisis response, it may not be adequate if lockdowns are prolonged.
- Respondents from Indonesia, Eswatini and Malaysia reported that it is hard to monitor learning outcomes and carry out suitable assessments for students.
- Respondents from Eswatini reported that employers expressed concerned about the health of their workers and are not willing to take responsibility for additional 'trainee workers'. They also noted that students were affected by their uncertain future. In addition, as both theoretical and practical components in the training have been reduced or cancelled, the practical skills of students were likely to suffer. They also reported that in the longer term these effects were likely to increase non-completion rates.
- Respondents from Australia report that work placements have been rescheduled and practical components of TVET using industry equipment is currently not permitted.
- Respondents from Myanmar and Saudi Arabia report the postponement of apprenticeships and internships, while online learning continues.
- Respondents from the Democratic Republic of Congo report a lack of a clear strategy with regards to continuity and a general suspension of activity. Internships in enterprises are also cancelled in many cases.
- Respondents from Brazil reported massive interruptions of practical training and apprenticeship programme.

Postponement of exams and assessments

- Whilst a number of respondents indicated that certifying exams and assessments have been postponed for TVET trainees and students, this is not the case in some Southeast Asian countries, like Barbados, Bhutan, Cambodia, Indonesia, Malaysia, Philippines, Thailand, Vietnam and others, like Australia, Ecuador, Egypt, Kazakhstan, and Ukraine, as some institutions continue to operate, and in Burundi where training institutions are not closed at all. In other countries with complete closure - Argentina, Armenia, Iceland, India, Jordan, Kazakhstan, Lebanon, México, Moldova, Mongolia, Morocco, Montenegro, North Macedonia, Russian Federation, Saudi Arabia, United Arab Emirates and Zambia, respondents report that the assessments are being conducted as usual. This could be an exceptional measure for assessment given the challenge of conducting assessments from a distance.
- In China, where the uptake of distance learning in general education has been strong, some respondents reported that practical courses could not be delivered online, and the assessment and certification processes, as well as the students' graduation would be affected. Others reported that exams would continue to take place online.

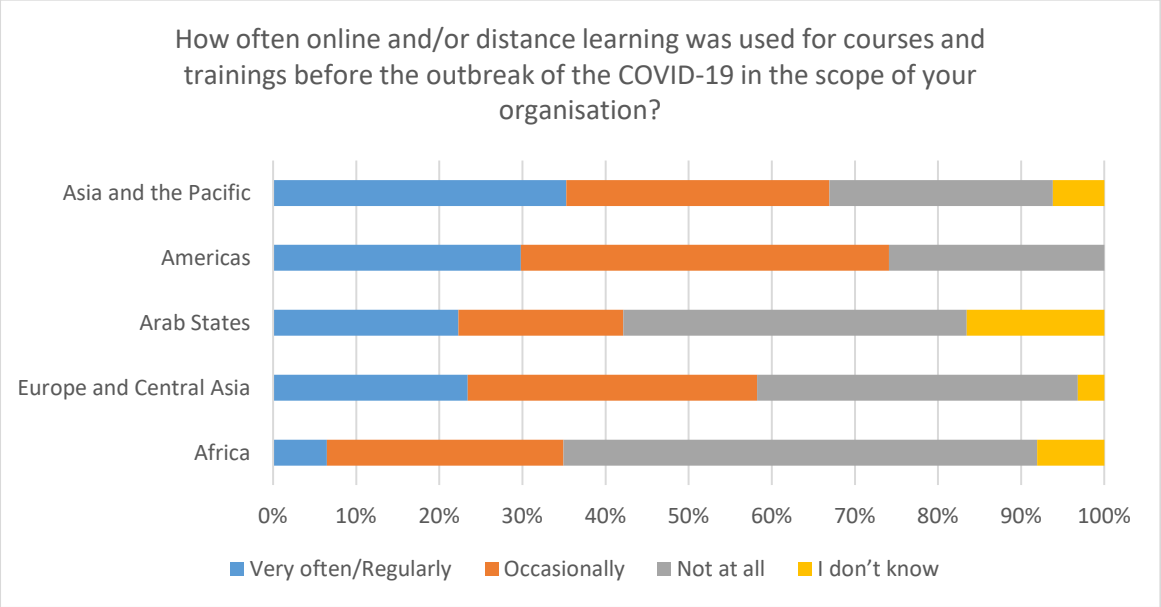
- In Guyana, programmes with significant practical modules will reportedly be prolonged as they require some face-to-face assessments. It would also seriously affect training completion timeframe and subsequent entry into the workforce.
- In the United Kingdom, respondents report the need to extend the school year due to the inability of conducting assessments in programmes other than those where it is possible online, for example computer applications, technical drawings, etc.
- In Saint Lucia, respondents report the general issue of adapting external exams online.
- In Egypt, despite the closure of the centres, some respondents reported that assessments will be done in 2 ways. For graduating students, assessments and exams will be conducted at college workshops and labs under very strict precautions and social distancing. For transitioning students, centres will reopen 3 weeks earlier than usual the next year.

Section III – The effect of COVID-19 pandemic on TVET provision

3.1 How has TVET provision been organised before and during the COVID-19 situation?

- Before the outbreak of the COVID-19, distance learning was not widely used in countries participating in the survey. Prior to the pandemic, nearly a third of all respondents did not use distance learning for courses or training at all, and another third used it only occasionally. Around 17% used it regularly and a mere 11% used it very often. From country-level perspective, in only 13 out of 126 countries, the majority of respondents reported using distance learning very often or regularly prior to COVID-19 outbreak.[3] The proportion of respondents who did not use distance learning at all is particularly high in Africa, and Arab States in comparison to other regions (Figure 4). From country-level perspective, the majority of respondents reported not using distance learning at all in 19 countries out of 126.

Figure 4: Use of online/offline distance learning before the outbreak by region



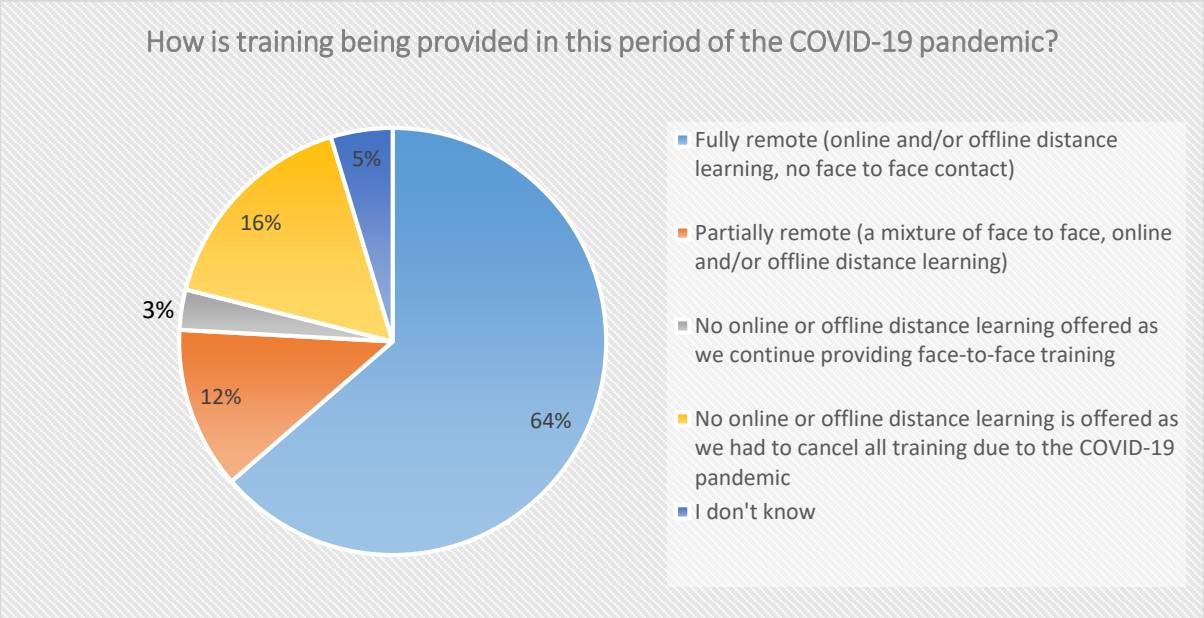
Note: The results may be not representative by region and should be treated with caution: Asia and the Pacific (629 respondents); Americas (255 respondents); Arab States (121 respondents); Europe and Central Asia (158 respondents); Africa (186 respondents).

- Whilst these findings indicate a relatively low use of distance and online learning before the crisis, the findings of this survey suggest the take-up of distance learning has accelerated during the crisis in the TVET sector, much like in general schooling and universities. As an illustration, the majority of respondents in 68 countries out of 126 report

[3] Countries are considered to use distance learning if more than 50% of respondents reported they often or regularly use online and/or distance learning. However, this calculation must be interpreted with caution as a third of all countries have only one respondent.

providing training courses fully remotely during the pandemic[4], whereas only 13 used to provide online distance learning regularly or often prior to COVID-19 outbreak. Figure 5 shows that while around 16% of respondents indicated that no online or offline distance learning is being offered, 64% reported that training is now being provided completely remotely by their institutions. Roughly 12% of respondents reported that training is being provided partially remotely and partially face-to-face, including respondents from Asia & Pacific (Australia, Brunei Darussalam, Cambodia, India, Japan, Kiribati, Malaysia, Mongolia, Myanmar, Nepal, Philippines, Republic of Korea, Sri Lanka, Thailand, Tonga, Viet Nam), Africa (Burkina Faso, Congo, Egypt, Kenya, Lesotho, Madagascar, Morocco, Mozambique, Nigeria, South Africa, Tunisia and Tanzania), North America (the United States, Canada), Europe & Central Asia (Armenia, Finland, Iceland, Ukraine, Uzbekistan) , Latin America & Caribbean (Colombia, Ecuador, Jamaica, Mexico), Arab States (Jordan, Lebanon and Occupied Palestinian Territories).

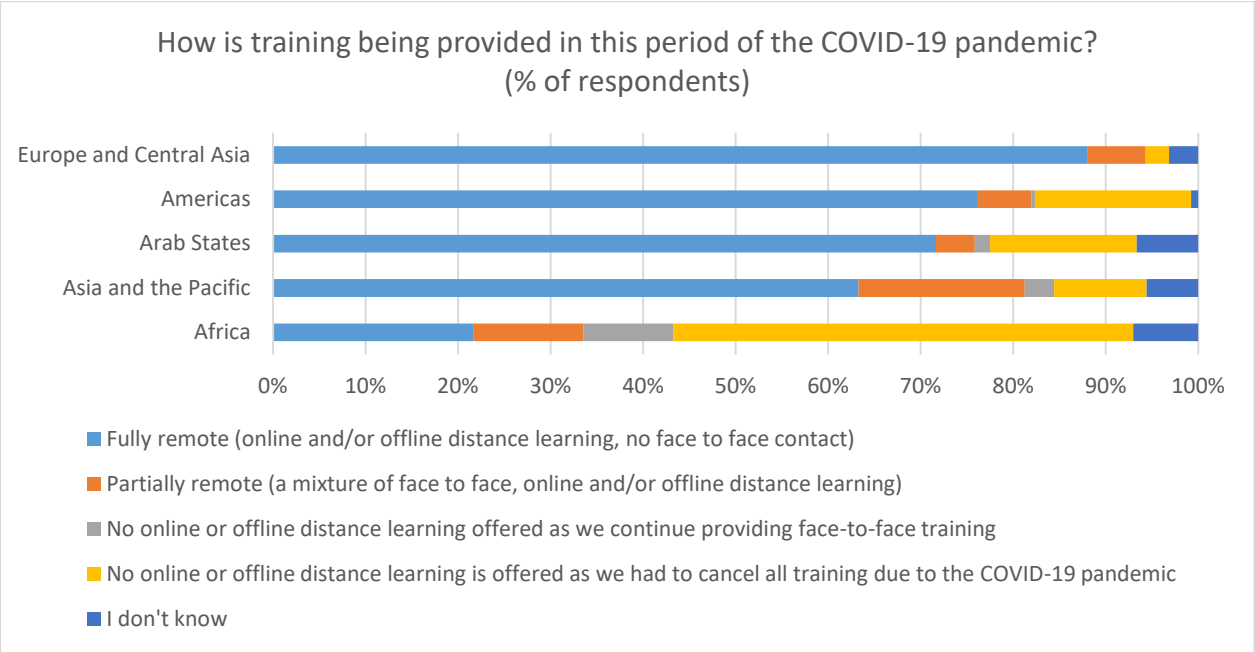
Figure 5: Training Delivery Models



- Respondents from regions that had regularly used distance learning for training before the outbreak are more likely to report providing training remotely (Figure 6). These regions include Europe and Central Asia, Asia and the Pacific, and Americas. In contrast, most of respondents from Africa reported that no online or offline distance learning is provided due to cancellations related to the COVID-19 pandemic.

[4] Country is considered as providing fully remote training if more than 50% of respondents reported they provide training remotely. However, this calculation must be interpreted with caution as a third of all countries have only one respondent.

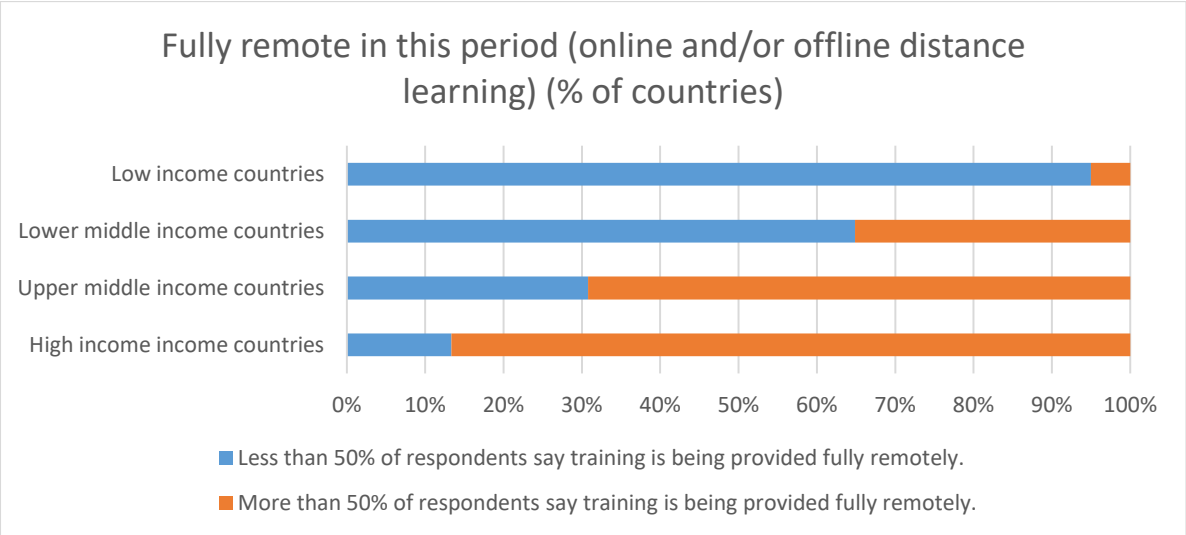
Figure 6: How training is provided by region



Note: Europe and Central Asia (158 respondents); Americas (255 respondents); Arab States (121 respondents); Asia and the Pacific (629 respondents); Africa (186 respondents).

- The likelihood to provide fully remote training courses seems also to be positively correlated to the countries' income level (Figure 7). In 87% (26 out of 30) of high-income countries, the majority of respondents reported providing training fully remotely; for low-income countries, the corresponding share was 5% (1 out of 20 countries).[5]

Figure 7: Provision of fully remote training course by income level



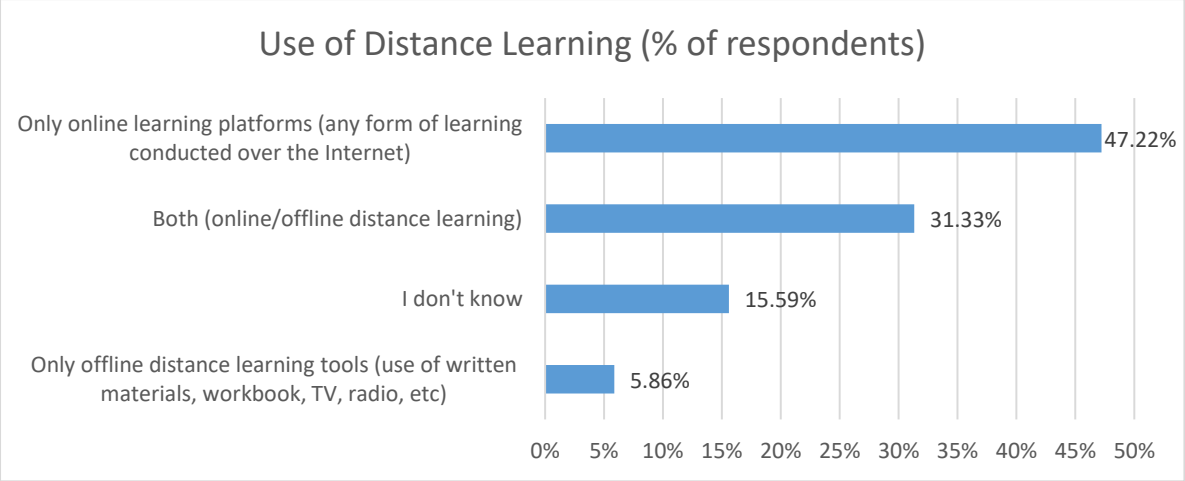
Note: High income (30 countries); Upper middle income (39 countries); Lower middle income (37 countries); Low income countries (20 countries).

[5] Country is considered as providing training fully remotely if more than 50% of respondents reported they provide training fully remotely. However, this calculation must be interpreted with caution as a third of all countries have only one respondent.

- Respondents suggest a number of reasons for the lack of availability of online or offline distance learning. The most common answers include:
    - Lack of/limited access to digital equipment and tools, both private and institutional;
    - Insufficient internet infrastructure (including data packages); network issues especially in rural areas;
    - Limited online educational resources, no effective online learning system and policy in place;
    - Lack of TVET-appropriate distance learning platforms that ensure quality and inclusiveness of outreach;
    - Insufficient capacity of teachers and trainers in enterprises and TVET institutions to transfer operations online and introduce distance learning (including the design and delivery of learning courses). This includes insufficient digital skills;
    - Insufficient digital skills of learners and their capacity to use ICT as a means of acquiring knowledge and managing their learning;
    - Challenge of conducting practical training without physical presence of trainers and students;
    - Lack of time to prepare for a crisis situation of this nature arising from nationwide lockdowns;
    - No prior experience in delivering training through distance mode and lack of planning for the same.
    - Lack of appropriate guidelines on distance learning by the training governing body

- While a mix of online and offline distance learning appears to be a widespread (31%) (Figure 8), a significant proportion of respondents (47%) reported that training now takes place only through online learning platforms. At the same time in countries like Armenia, Bangladesh, Belize, Colombia, DRC, Jordan, Lebanon, Madagascar, Malawi, Malaysia, Moldova, Morocco, Nigeria, Pakistan, Philippines, Republic of Tanzania, Sudan, South Sudan, Tunisia Ukraine, Yemen, Zambia, and Zimbabwe, some respondents report using offline distance learning tools only. It is to be noted that a relatively high number of respondents had no knowledge of what methods were in use (16%).

Figure 8: Distance Learning Use



- In many countries, migrants were reported as being able to take part in online and/or offline distance training courses (36%). However, a similar proportion of respondents indicated that distance courses are not open to migrants (35%). However, it is important to note that 29% of respondents did not have a response to this question, which indicates that this may not have been an intentional measure in most participating institutions.
- Most respondents indicated that they were not providing face-to-face training, and consequently not much information on the preventive measures and special guidelines for face-to-face teaching is available. Nonetheless, those respondents who did report some measures appear to give importance to the governmental and WHO guidelines/advice, such as maintaining physical distance and wearing masks, for example in Madagascar, where partial provision of face-to-face training was reported
- An institution in Lebanon noted they were progressively moving back to face-to-face training, by taking into account health and distancing measures and lowering the number of students in each class.
- An institution in Brazil mentioned they developed a series of measures in order to guarantee a safe return and when the moment for the return of classes is decided, these measures will be applied.

3.2. How is work-based learning, apprenticeships or practical training being provided?

- In the majority of countries, TVET providers are not providing or assessing practical skills training usually developed in workshops/laboratories or through work-based learning and apprenticeships. While in most cases the focus is on continuity of theoretical coursework, the below examples show ways in which the practical aspect of training is being conducted and assessed mostly virtually.

Face-to-face if possible

  - Respondents from Australia, Bangladesh, Cambodia, Finland, Kenya, Madagascar, Malaysia, Thailand, and Zambia indicated that they still provide apprenticeship/practical training face-to-face but with precautionary measures such as social distancing and protective clothing in place. Respondents from Kiribati indicated that after an initial closure of educational institutions for two weeks all training activities resumed as normal as there are no business closures. The Ministry of Health, WHO and Kiribati Family Association have provided information and training sessions to all staff and students about health and safety precautions related to COVID-19. Respondents from United Arab Emirates indicated the assessment of practical skills has been taking place by allowing small groups of students to come to workshops (providing guidelines on protective measures against COVID-19); respondents from Myanmar indicated they are considering introducing the same measures. In Cambodia, teachers and students are required to wear a face mask and to follow a health and safety classes based on the guidelines of the Ministry of health. In the same country, a respondent reported that temperature devices are used for checking students and teachers heat before coming class in addition to the use of alcohol or shampoo for hand washing.

Online pedagogical resources through online platforms

- In countries, where no face-to-face training is possible, virtual platforms and tools are being mobilised where possible:

    - Respondents from Angola, Argentina, Armenia, Bangladesh, Bosnia and Harzegovina, Canada, Indonesia, Kazakhstan, Lebanon, Madagascar, Malaysia, Mauritius, Mexico, Montenegro, Philippines, , Romania, Russian Federation, the United Kingdom, Trinidad and Tobago and Zimbabwe indicated that work-based learning, apprenticeship or practical content have been (partially) delivered through online platforms although in most cases it is not clear exactly how. Nigeria and Benin are also developing online training packages for practical skills development. Angola, Armenia, Bahamas, Bangladesh, Bhutan, Cambodia, China, Columbia, Egypt, Ecuador, Jordan, Kazakhstan, Lebanon, Malaysia, Mongolia, Nigeria Peru, Sri Lanka and the United Kingdom indicated the use of video materials; Albania, Argentina, Australia, Brazil, Ecuador, Kenya, Mexico , Philippines, Slovenia, South Africa, Uzbekistan and Yemen reported the use of video tutorials, live video conferences and simulators where possible, while it remains challenging in most cases. Respondents from Armenia and Morocco report the use of existing online platforms like MOOCs and Moodle.
    - Respondents from Chile reported that they are planning to use the Padlet tool to evaluate the results of students' work through video recordings when performing skills, and, where possible, to also use digital simulators.
    - Most respondents from China reported that training continues through online platforms such as video conferencing tools, live broadcasts, virtual reality tools and simulation software. While some respondents suggested that online learning is mainly focused on theoretical knowledge instead of practical content, some of them mentioned that students are encouraged to practice by themselves following teachers' demonstration.
    - In Lebanon, respondents report that in addition to using workshop videos prepared by the instructors, existing videos from YouTube are being curated based on targeted competencies and shared with learners.

Offline tools and platforms (or a mix of offline and online)

- Respondents from DRC, Madagascar and Pakistan reported the use of offline platforms like national television to disseminate practical knowledge.
- Respondents from Canada report that certain practical skills are being taught through end-of-study projects in industrial design, business, ICT and for certain programmes teachers will evaluate practical knowledge through case studies, role-playing, problem-analysis etc.;
- In Kyrgyzstan, students are reported to draw diagrams and technocards and send them to teachers for evaluation. Similarly, in Ecuador and Finland, students are

reported to carry out practical tasks at home and upload them on platforms or send videos/photos of accomplished work to teachers.

- In the Republic of Korea, respondents report the development of video manuals on how to use online content for instructors and users, but no assessment is being carried out.
- Many respondents are developing and distributing written resources and developing (self-paced learning guides, learner notes). They are from Angola, Argentina, Australia, Bangladesh, Bhutan, Bosnia and Herzegovina, Cambodia, Côte d'Ivoire, Ecuador, Egypt, Grenada, Lenya, Lebanon, Malaysia, Mauritius, Mongolia, Mexico, Palestine, Philippines, Slovenia, South Africa and Trinidad and Tobago.

Assessment of practical knowledge and skills

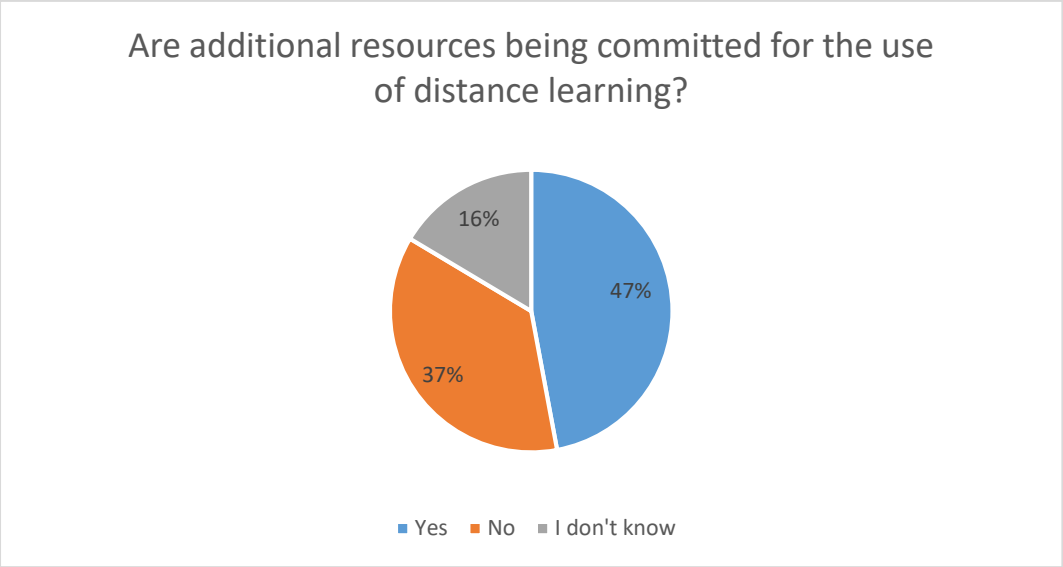
- Respondents from Mauritania and Mexico report that motivated trainers are trying to maintain continuity by using communication tools and virtual meeting platforms at their disposal- WhatsApp, Microsoft Teams, etc. In Cambodia, Telegram or messenger groups have been set up to keep providing the training.
- Respondents from Egypt, New Zealand and Trinidad and Tobago report that practical skills are being assessed based on portfolios of past work compiled by learners and submitted online. In the UAE, these assessments are being complemented by additional professional discussions between learners and assessors.

3.3. Additional resources that are being committed by TVET organizations to create new materials, deploy new technologies and/or expand the use of online and offline distance learning?

- As of 15 May 2020, additional resources are being committed by TVET organizations to create new materials by 61 countries out of 126. [6] About 47% respondents indicated that additional human and financial resources are being committed in their organisations to create new materials, deploy new technologies and/or expand the use of online and offline distance learning (Figure 9). The survey does not gather more detailed information in this regard.

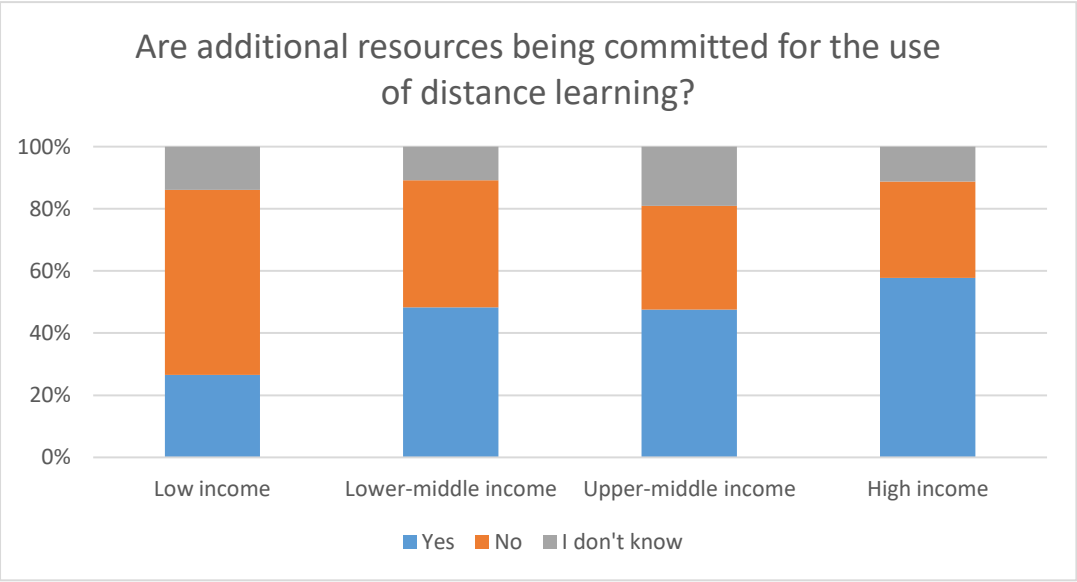
[6] Country is considered as having TVET organizations commit additional resources for distance learning if more than 50% of respondents reported committing such resources. However, this calculation must be interpreted with caution as a third of all countries have only one respondent.

Figure 9: Additional resources committed for the use of distance learning



- The likelihood of TVET institutions committing additional resources for the use of distance learning seems positively correlated with countries' income level (Figure 10). The majority of respondents in high-income countries indicated that their institutions were committing additional resources to support distance learning. This percentage is somewhat lower for respondents in middle-income countries (around 48%), whereas only a quarter of respondents in low-income countries report additional resources for distance learning being committed by their institutions (27%).

Figure 10: Additional resources committed by countries' income level



Note: High income (71 respondents); Upper middle income (880 respondents); Lower middle income (318 respondents); Low income countries (80 respondents).

- For developing and enhancing online learning, the most common tools or resources used are video conferencing (such as Zoom), videos (including YouTube), blogs, discussion forums or platforms (like Microsoft Teams) and virtual learning environments (like Google Classroom). Video conferencing tools and virtual learning platforms appear to be more widespread among high income countries, while offline distance learning tools such as TV and written resources seem to be more frequent in lower income countries. This is likely to be correlated with the general quality and access to the internet. (Figure 11).

- (Figure 11). Some respondents also reported the use of simulations like STR, Opera and Amadeus, blogs, discussion forums or platforms (like Microsoft Teams), as well as social media platforms and communication tools such as Facebook, Instagram, WhatsApp and email to facilitate interaction and coordination between trainers and students. Tools or resources for offline distance learning are also being developed or expanded and include new written resources such as self-paced learning guides and learner notes. A number of respondents from countries like Italy, Ukraine and Kazakhstan are reportedly using locally developed platforms, which provide distance-learning solutions in local languages.

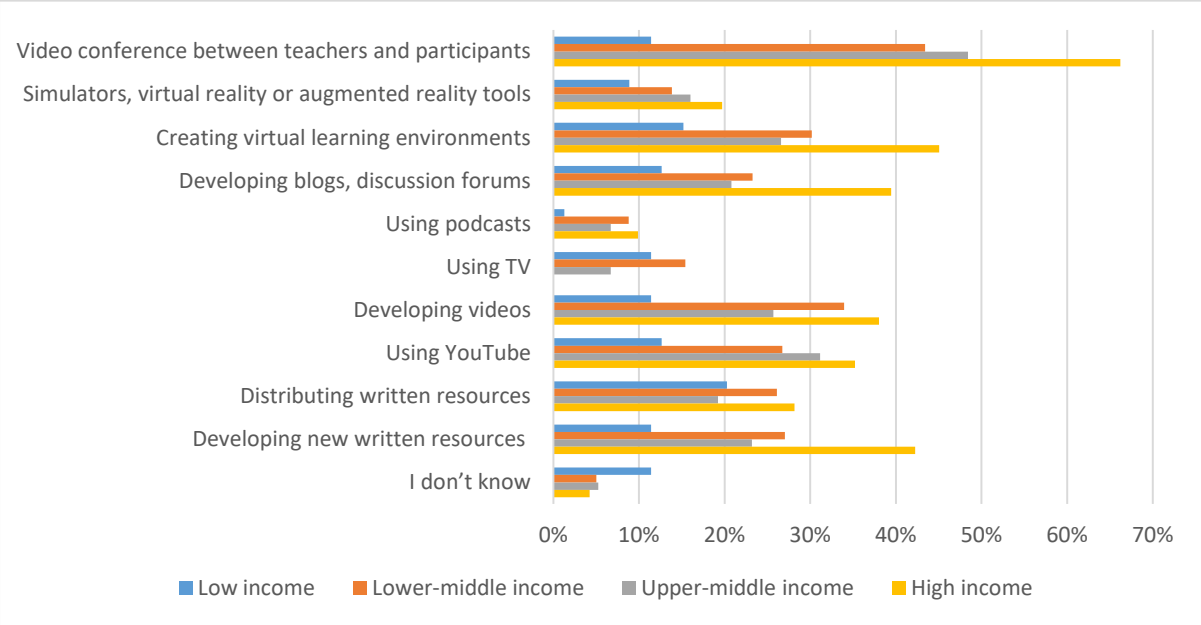
Other specific examples include:

  - Indonesia: existing online training platforms developed earlier for regular courses are now being accelerated for immediate wider use.
  - Malaysia: home-grown learning management system is being deployed to support distance learning.
  - El Salvador: Platforms and programmes have been developed for students in the areas of software and health.
  - Respondents from Ecuador reported that some training providers are investing in mobilising platforms, training the trainers and subsequently the learners in using virtual tools.
  - Egypt: enterprises and TVET institutions are developing the capabilities of their trainers and teachers to modify face-to-face courses for the delivery through distance learning, or recruiting, via short-term contracts, online/distance learning experts/advisers.
  - Philippines: A TVET centre has a virtual classroom – an online platform for teachers and students, where they can design and implement the modules, activities and assessments. Students can take examinations, read online books and use relevant links. The platform also features Google applications.
  - Mexico: a call centre /hotline was set up through which teachers can support students.
  - Myanmar: the development of a platform for skills development is reportedly underway.
  - Madagascar: the use of TV and radio as offline media is reportedly widespread in the country where connectivity is a real issue.
  - Albania, Armenia, Brazil, Burkina Faso, Cambodia, Ecuador, Egypt, El Salvador, India, Malaysia, Morocco, Mexico, Philippines, Sudan, South Africa and Vietnam: Many respondents reported using podcasts.

- Angola, Argentina, Bangladesh, Chile, Côte d'Ivoire, Ghana, Grenada, Iraq, Japan, Jordan, Kazakhstan, Kenya, Lebanon, Madagascar, Malta, Mauritius, Mongolia, Myanmar, Palestine, Republic of Korea, Russian Federation, Senegal, Thailand, Tunisia, Uganda, Ukraine, Great Britain and United-States of America: Respondents from these countries are developing blogs and discussion forums.

- Many other countries present examples of developing new or mobilising existing platforms, for example skills gateways, to reach out to learners and ensure continuity of training as much as possible. A list of such national level platforms in national languages has been provided in the last section of the report.

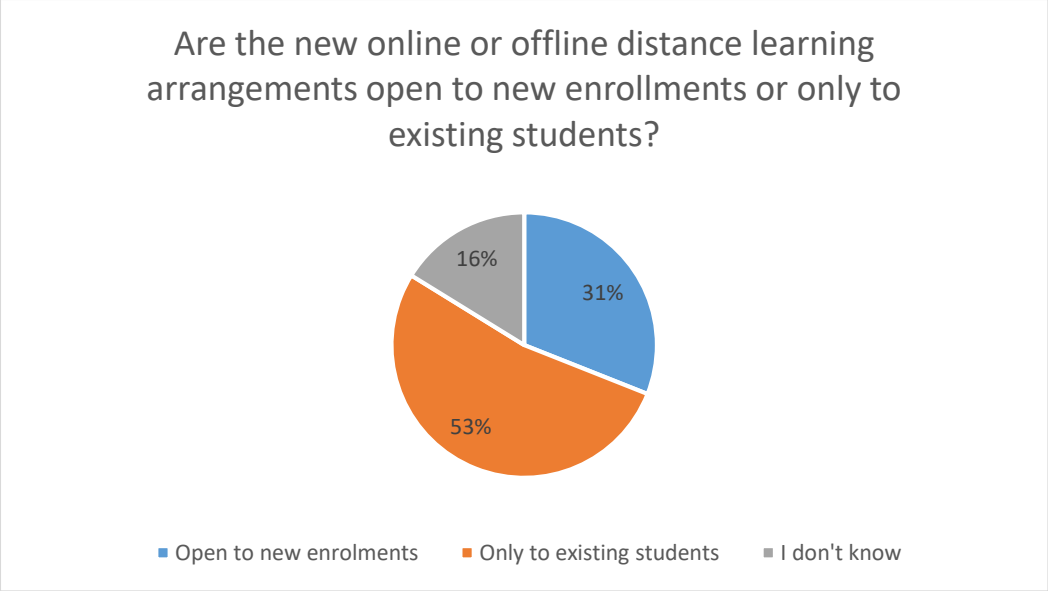
Figure 11: The Use of New Tools and Resources, by income groups



- It is very often the case that the new online or offline distance learning arrangements are restricted to existing students and not open to newly enrolled students. As shown in Figure 12, only 31% respondents[7] indicated the availability of such arrangements to newly enrolled students.
- Across all technologies deployed, it is perhaps interesting to note that the use of TV and written materials was comparatively high in low and lower-middle income countries

Figure 12: Distance Learning Enrolment

[7] It is important to note that only 920 respondents (or 68% of total respondents) provided any answer to this question.



3.4 Measures developed to address skills shortages in occupations and sectors affected by the COVID-19

Around 172 respondents[8] suggested that the new or expanded online or offline distance learning materials or technologies have been used to address skill shortages in occupations or sectors affected by the COVID-19 pandemic. For example,

- In the United States of America, virtual reality is being introduced to a nursing programme. Another respondent reported a range of IT training materials (from basic to advanced) and courses that were developed to address skills shortages in ICT related occupations.
- A respondent from India reported that new resources are used to develop healthcare related skills and raise awareness related to health and hygiene.
- A respondent from Malaysia reported having access to learning contents on ventilator machines. Another one stated that their institution provided face shields for the healthcare workers.
- In Indonesia, a respondent noted efforts to initiate training for medical equipment technicians, other healthcare workers as well as garment factory and call centre workers given the urgent need for skills in these domains.
- A respondent from the United Kingdom reported on learning materials for infection control and prevention at the workplace.
- In Lebanon, new learning materials have been used for occupations in diverse economic activities including sewing of masks, cooking for poor families, and mental health support.
- In Austria, a respondent reported many new courses not only for health workers but also for other professional groups that are concerned with safety regulations.
- A respondent from Iraq reported on online courses that were given by health department personnel on technical tests for COVID-19.
- In Canada, on-line training programmes were introduced for volunteers in the healthcare network in support of attendants and nurses.

[8] It must be noted that 920 of respondents provided an answer to this question.

- In Uzbekistan, a call center was created to explain questions related to video lessons and online assessment systems for parents and students, and a special 'Telegram bot' was developed to automatically answer the most frequently asked questions. A respondent from Mexico also reported about new video materials for teachers.
- In New Zealand, Industry Training Organisations working with health care and other essential occupations, are supporting short-term training and retraining of workers to redeploy them in support of the pandemic response (for example with hygiene and infection control methods).
- In the Republic of Korea, some sectors facing an employment emergency have been prioritized to receive subsidies for their training expenses.
- In Trinidad and Tobago, a course on Patient Care Assistance has been promptly converted into an online format.
- In Colombia, some training centers are reorienting towards manufacturing protective facemasks, protective clothing for medical workers, medical machinery and respirators;
- In Ecuador, various practical courses are being developed in the areas of health, from personal hygiene to the transfer of critically ill patients
- In Mexico, new nursing courses are being launched to increase enrolments in that sector.
- In Kenya, a respondent indicated an initiative to conduct interviews with private sector to gain deeper understanding of skill gaps.
- In Australia, measures are being developed to address skill shortages in areas such as aged care, disability support and health care.
- In Peru, students are supporting the frontline areas of the health sector through telephone calls.
- In Sri Lanka, a number of respondents reported different skills programme and measures to improve skills including digital, cookery and hospitality skills. Some also reported measures to address skills needs and shortages in networking and cyber security sectors. Another respondent reported an early development stage of cleaning equipment that can be used in needed sectors. An example was mentioned of a company which developed ventilators for hospitals.
- In Kazakhstan, a state programme was launched for short-term professional trainings at the requests of employers to address skills shortages.

However, there are challenges in developing new learning materials due to limitation of movement and high cost of data, as pointed out by a respondent from Ghana.

It must be noted that 35% of respondents were not aware of any such measures taken in their country.

3.5 Main lessons learned and obstacles for TVET provision

A range of observations were made by respondents regarding the lessons learned since the beginning of the crisis.

General comments

- It appears to be quite difficult, and in some cases unrealistic, to have a quick transition from face-to-face to online learning as careful planning, preparation, adaptation and an appropriate learning space are required.

- Infrastructure proved to be a major bottleneck for effective e-learning. Those training providers that were infrastructure-ready, were able to transit smoothly to distance learning. Consequently, additional investment in ICT (including IT platforms for e-learning and tools, and IT trained professionals) should be considered a priority in the future.
- Investments in infrastructure and other measures to support the transition from traditional courses to online courses should target primarily vulnerable populations. These populations are likely to be the most exposed to the lack of connectivity.
- Countries also need to pay attention to the broadband, infrastructure and connectivity issues. Lack of internet and electricity are recurrent problems mentioned. Moreover, in many countries, and especially in rural areas, internet access is expensive and data access through mobile phones is low.
- Infrastructural gaps further deepen inequality in access to education and training among young people within a country and internationally.
- More collaborative initiatives are required to develop training materials and facilitate distance learning among institutions, IT professionals, private sector, social partners, internet providers and governments.
- There might be a resistance to change and the adaptation might be difficult for users of online learning. It is also important to keep in mind that work-life balance is difficult while teaching or learning at home. Furthermore, parents do not always have the capacity to support their children in learning at home.
- There is a need to produce statistics on the use of online training by teachers and students to provide greater insights into the challenges faced and solutions found.
- One of the respondents suggested that access to online learning should be included in law.
- Digitalisation could be realized in a shorter period amid the COVID-19 pandemic, but it should be well noted that this might increase inequalities, as access to internet and digital equipment is not equal among all students and teachers and across countries and regions.

For teachers:

- While the current COVID-19 situation has helped many teachers to become more creative, responsible and committed, it is also important for teachers to be more flexible to create new methods and materials, and rapidly adapt to changes.
- Teachers should be empowered, fully equipped and trained to develop their own e-learning materials. Continuous training and technical support should be provided to teachers to facilitate the development and delivery of their online sessions.
- The role of teachers as moderators and facilitators for e-learning was highlighted.
- The importance of online training pedagogy was highlighted as well as the importance of peer-to-peer learning for teachers.
- It was also noted that in some situations teachers and trainers have had to absorb the cost of upgrading their personal ICT systems and internet access to allow them to deliver learning and manage programme from their private residences.

For students and trainees:

- Students should be prepared to become independent learners. It is crucial to develop skills such as learning to learn, independent learning and personal development.
- Motivation and self-discipline play an important role for e-learning provision. Effective e-learning requires strong commitment by teachers and students.
- Continuous communication and engagement with students are important to avoid dropouts. In addition, it is important to identify and recognise the differences in learning outcomes between face-to-face and online learning.
- It is important to take into account that family issues and violence affect learning outcomes during the lockdown.
- Connectivity is a critical issue especially for poor students.

Tools

- E-learning materials should to be developed in different languages and should be constantly updated as per the different programmes.
- There is a need in more and adapted online training resources, platforms and tools for instruction and learning, including communication tools.
- A number of existing platforms can be mobilised in order to strengthen the blended learning formats on a regular basis by TVET providers.
- Laboratory tools for the development of practical skills are lacking and should be developed.
- Robust communication tool and mechanisms between managers, teachers and students to be ensured.
- Development of more interactive tools to help students and trainees better engage in classes and trainings are required.

Aftermath of the COVID-19 pandemic

- System contingency and disaster recovery plans should be put in place.
- Risk mitigation measures should be added to skills development strategies; where such strategies do not exist, their formulation should be prioritized
- Online learning must be taken into account in curriculum/modular training development.
- Better more flexible assessment tools and methodologies should be put in place.
- The serious lack of connectivity and digital skills among teachers as well as learners needs to be addressed to ensure effective preparedness of training systems. For teachers, relevant digital should be embedded in their continuing training programmes.
- Legal framework must be put in place to support the flexibility of learning and teaching.

- Experience on e-learning by teachers and students in the context of COVID-19 should be well recorded and compiled to prepare for future crises.

3.6 Supporting measures being provided for teachers and trainers

- Many countries are providing diverse support measures to teachers and trainers through online training, workshops and seminars. These aim to upgrade the ICT skills of teachers and trainers and to assist with the preparation of e-learning materials. The support measures also aim to assist with the preparation and delivery of online sessions as well as with the use of online platforms. Some examples are provided below:

Online teacher training platforms

  - A number of countries use a free and open-source learning management system (LMS) such as Moodle "Modular Object-Oriented Dynamic Learning Environment"- a learning platform devised to provide teachers, trainers, supervisors, and learners to generate customized learning settings (Albania, Egypt, USA, Sri Lanka). In other countries, free access to learning platforms are offered by governments (Belgium, Bhutan, China, Lebanon) and by private companies (Malaysia) for the period of the crisis.
  - Coaching of teachers (India, Lebanon, Canada) including through accelerated programme (Tunisia) and video blogs and individual counselling (Uzbekistan).
  - Support measures also include additional video resources (the USA, Honduras), 24/7 tech support for the learning management system (LMS) (the USA); other online tools, IT labs, good quality Internet (Mexico, Chile and Myanmar), montage and movie production technicians (Egypt, Thailand), and technological upgrading and related continuous technical support (Canada).
  - Management and technical support from the authorities is provided for the use of online platforms for carrying out teaching, evaluation and getting feedback from their students through surveys (El Salvador, Mexico, Chile). It also maintains stable access for teachers and students to the platforms.
  - ICT technical support to teachers and trainers is provided through telephone, WhatsApp, Webinars, and Zoom (Sri Lanka, Israel, Trinidad and Tobago, Ecuador).
  - In the UK, the Ministry is reportedly conducting online sessions for teachers in the use of online platforms for upcoming terms.
  - In Ethiopia, respondents report digital skilling has reportedly been done for teachers conducted in collaboration with Google.
  - In Tunisia, video tutorials are being reportedly provided to teachers concerning online training.
  - In Lebanon, a respondent reported that teachers are trained on how to use educational platforms and to do learning assessments.

- A respondent from Bhutan said that TV channels and social media are being used to teach students and to give them assignments.

In Cambodia, technical supports are provided to teachers including how to use video conference, make video lessons and provide homework or assignments to students.

Support to develop pedagogical resources

- Other countries provide support on how to develop online materials/how to conduct online sessions/how to use online platforms training and tutorial materials (Lebanon, Philippines, Benin, Burkina Faso, Mexico, Chile, Iraq, Armenia), through mentoring.
- In New Zealand, respondents share an online platform where pedagogical resources are being shared. Some of the online providers have reportedly launched advice and information for trainers on their websites.
- In Cambodia, a respondent reported that teachers are provided with cameras, internet access, and licenced software.
- In Brazil, different online courses are being conducted on socio-emotional management, creating and editing video classes, and on podcasts.
- In China, school-based professional development opportunities on how to use online platforms and on how to obtain online learning resources were provided to teachers.
- In Ecuador, weekly pedagogical cards have been developed and articulated for training modules in each speciality, as a support to teachers and students, as well as a toolbox of educational resources. The Ministry of Education has provided various educational resources.
- In Peru, respondents reported training courses on the use of online platforms and methodologies in virtual environments of online seminars. ICT teachers are to accompany the development of classes and video tutorials which are provided for teacher self-study.
- In Jordan, teachers were offered online training courses on how to use MS Teams, Google classrooms and other facilities for their online training sessions.
- In Sri Lanka, online training courses, tutorials, webinars, master classes as well as online resources were provided to teachers for the delivery of online sessions and for assessment of activities. Moreover, guidelines and instructions for online meetings and ToT for online trainers were provided.
- IT trainings and support were provided to teachers to support their online sessions (Australia, Ecuador, Bosnia and Herzegovina). Virtual trainings (Nepal), video-based trainings (Tonga) and trainings on the use of ICT tools (Venezuela) were provided.

Organisational support

- Some countries provide support to teachers and trainers for exchanging their strategies and practices through mentorship programmes by teachers who have

more experience and can support their colleagues (Canada), and through communication networks among teachers using videoconferences, chat groups and emails (Mexico).

- In Madagascar, the support was not only through providing materials and internet connections, but also on motivating teachers and trainers in further delivering their courses and training resources as well as on solicitation of all public-private teachers to offer courses or simulations online or on TV.
- In Philippines, teachers are receiving material support in the form of equipment the lack of which poses a major challenge for distance learning. Additionally, support for teachers is coming from telecom providers in the form of reduced tariff for data bandwidth. Capacity building programme are planned for trainers by the National TVET trainer academy to conduct of online/blended/distance learning and webinars are being organised by national institutions.
- In India, respondents refer to guidance provided to teachers with regards to the usage of existing virtual tools like Zoom, WhatsApp groups, Google classroom, YouTube, etc.
- In Canada, respondents report of workshops being provided on testing and assessment and introductory guidance was provided to use different software.
- In Armenia (and Mexico), respondents report that TVET directors communicate regularly with teachers to keep them motivated and help them find solutions through appropriate platforms like Moodle etc. Methodologies and tools are reportedly being shared to develop online exercises, materials, tests etc. Teachers are reportedly also receiving financial and material support including full salary and provision of equipment
- In Croatia, the Ministry of Education is reportedly engaging with directors and trainers to guide them in the process of moving training online.
- In Russia reportedly, managers are working continuously to solve technical and organisational problems.
- In Moldova reportedly, psychological support as well as training seminars are being organised for teachers.
- In Armenia, teacher communities have been created to discuss strategies and exchange experiences in terms of what works with regards to online training.
- In Bosnia and Herzegovina, permanent support is being provided by school system administrators and through webinars.
- In Brazil, operational guidelines are provided by the State Secretariat of Education and pedagogical support is provided by professionals. Also, a respondent reported the creation of a mediation room in google classroom for support to teachers as well as for monitoring purposes.
- In France, psychological support for management is being organized through regular exchanges within teams
- In Jordan, psychological and technical support and mentoring is being organized for teachers.
- In Kiribati, professional capacity development trainings are being provided in the use of MS teams, Moodle, and in online learning design.

- In Madagascar, training of trainers, sharing of good practices, assistance in building online courses are being organized.
- In Sri Lanka, psychological and social support has been provided to teachers and trainers. Teachers are continuously encouraged to communicate and to carry out online discussions with students through available resources (WhatsApp Groups). Working with students as a team has helped teachers not only in encouraging students' self-motivation but also in overcoming the current challenges.
- In Brazil, teacher trainings and technical support to teachers has been provided through the creation of call centres for FAQ. In addition, SENAI has provided pedagogical guides to orient teachers to overcome the current challenges.

Financial support

- In some cases, financial support is provided to use online courses (Cambodia, Argentina) and personal development grant applications are offered to teachers and trainers for deployment of online training to complement their support on the use of digital tools and on providing best practices for teaching remotely (Nigeria).
- A respondent from Armenia reported that teachers continued to receive full pay and also received material support including the provision of equipment.
- In the Republic of Korea, respondents report of guidelines developed to conduct remote training, and relevant reimbursements and subsidies are being provided in relation to remote training expenses.
- In China, respondents report that unemployment insurance funds are being used to support training for teachers.
- In Malaysia, an economic stimulus package is offered to students.
- In Uzbekistan, a respondent reported that extra funds are being allocated to teachers and trainers for internet and computers
- Some respondents in China reported that centres have established working group on COVID-19 prevention and Campus Crisis Management Team, which have developed a contingency plan. In the event of a public health crisis, centres would implement a series of measures to ensure the continuation of learning at home.
- In China, a college has set up a hotline (both via internet and telephone) for providing psychological support. A thematic activity on students' emotional management during the pandemic has also been carried out.

Infrastructural support

- In Kyrgyzstan, the operator Megacom provided free SIM cards to all teachers of the lyceum for 2 months with free Internet and data (up to 60 GB) and free conversations within the network. Internet vouchers are also used in other countries (Mexico).

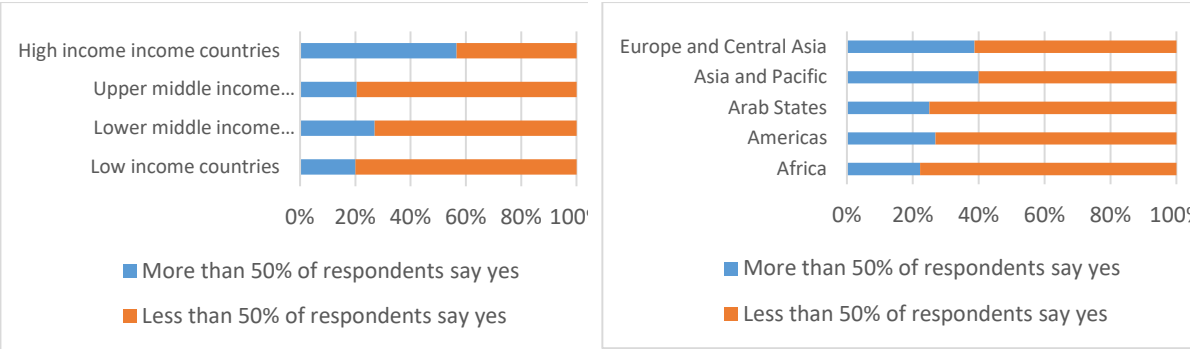
- In Afghanistan, while the government is encouraging centres and universities to provide online classes, the major challenge is proper access to the internet.
- In countries such as UK, Chile, Myanmar, Morocco, and Madagascar, teachers and trainers are receiving laptops and tablets. In Kazakhstan, those who did not have computers have been supplied. A respondent from Mexico reported that loans of equipment are available for teachers and trainers.
- In Malaysia, a respondent from an initial TVET provider organization reported that laptops and mobile phones are provided.
- In Kenya, there is reportedly a plan to have all TVET institutions linked up to fiber-optic internet, which would enable faster connectivity.
- In Chile, a respondent reported that internet connection chips and equipment were being provided
- In Lebanon, internet data bundles are being provided
- In Sri Lanka, diverse support including free internet facilities, IT facilities, laptops, remote technical support when necessary and license software support were provided to both teachers and students.

- Despite the various types of support provided to teachers and trainers, some expressed their concerns about the cost of accessing the internet being borne by teachers and trainers.
- In addition, a number of respondents stated that there was no support being provided to teachers, and that they were also undergoing salary cuts.
- Some respondents reported having no knowledge of any additional measures being taken.

3.7 Policy and institutional measures to encourage or to manage initial or continuing vocational training in response to the crisis

Only 29% of respondents declared that there were dedicated policies to encourage TVET as a response to the crisis. Most respondents (over 44%) declared that they were not aware of any such policies and 27% declared that there were no specific policy measures being developed in their countries. In 57% (17 out of 30) of high-income countries, the majority of respondents reported dedicated TVET policies; for low-income countries, the corresponding share was 20% (4 out of 20 countries). From the regional perspective, the share of countries, where the majority of respondents reported dedicated policies, was higher in regions including Europe and Central Asia and Asia and the Pacific.

Figure 13. Is there a public policy in your country or institution to encourage or to manage initial or continuing vocational training in response to the crisis? (% of countries)



Note: High income (30 countries); Upper middle income (39 countries); Lower middle income (37 countries); Low income countries (20 countries).Europe and Central Asia (158 respondents); Asia and the Pacific (629 respondents); Arab States (121 respondents); Americas (255 respondents); Africa (186 respondents).

- Initial government responses appear to have been quicker in general education than TVET. However, the number of countries which are developing TVET response measures seems to be steadily increasing as the crisis has developed and governments have now issued at least general guidelines for the adaptation of education and training in most countries. The most common responses include the deployment of online courses and public private partnerships for the development of learning platforms.
- As such, there are growing and encouraging examples of targeted responses.

    - In Nigeria an online digital platform for youth training has been developed through a collaboration between IBM and the Federal Ministry of Youth and Sports Development.
    - In Senegal, peer groups of learners have been developed utilising WhatsApp for mutual support.
    - In Egypt a number of organizations have started to recruit distance learning experts via short-term contracts to work and advise on transfer from face-to-face courses into a distance learning.
    - In Thailand, the Ministry of Education as officially signalled to colleges the need to prepare for online learning with the support of central administration services.
    - In Malaysia, respondents report on policy measures for financial and food related assistance being announces to students under the Malaysia Movement Control Order 2020 to support the students and continuity of training. Education TV channels are set up and students are also provided an allowance for internet usage.
    - In China, the Ministry of Education has introduced a number of guidelines for centres, TVET and higher education institutions in response to the pandemic. Respondents have also mentioned that college's management and services have been strengthened during the pandemic, such as requiring students to report their body temperature daily and to wear face masks, giving advice to students regarding personal hygiene and ensuring compliance with social distancing and other preventative measures. The guidelines also require centres to make full use of high-quality online learning platforms and resources at the provincial and college levels to ensure the continuation of quality learning and teaching despite the suspension of centres.

- In Macau, China, the Education and Youth Affairs Bureau has been providing online learning resources including tailor-made online teacher training courses.
- In Mexico synchronous e-learning has been adopted in post-secondary education and incentives have been established to encourage teaching staff to correspondingly develop their skills. The COSDAC portal makes resources available to teaching staff. Students receive online support and Microsoft Teams is being regularly used to enable collaborative work, including tutorship. Both in Mexico and Madagascar, the Ministry for Education has implemented distance learning using TV broadcasts.
- In many countries, access to digital equipment and internet is limited. To address this issue in Malaysia financial aid is being provided to students, alongside free internet access up to 1GB per day for online teaching and learning. In countries with strong IT infrastructures, transition to distance digital learning has been easier. In the United Arab Emirates, for instance TVET institutes have maintained high levels of activity through online learning.
- In a growing number of countries, the crisis provides an opportunity to unite work-based learning with production of social value, especially in technical learning linked to the health sector. In Thailand, for example, TVET colleges have been mandated to produce to distribute hand sanitizer among local communities.
- There is also a growing trend of public authorities searching for effective ways to assess and certify acquired knowledge and competences. In Northern Ireland, colleges are working with the Qualifications Regulator towards developing solutions to the assessment and award of qualifications and a shared approach to co-ordinating with Awarding organisations across the whole of the United Kingdom.
- In New Zealand, immediate policy responses have focused on preserving employment for on-job trainees, including wage subsidies for all employers and government-supported loans for small businesses to maintain business viability during the crisis.
- In Lebanon, incentives were reportedly paid for teachers who were keen to prepare and deliver online courses
- In Ecuador, the national system of professional qualifications in charge of training and certification is moving to adapt to virtual modalities of delivery and assessment.
- In Philippines, the national skills development authority is advocating the use of its Online Programme, through tri media and other the social media platforms, as an additional learning resource.
- In Moldova, the Distance Learning Regulation was reportedly adopted in March 2020.
- The Australian Government has developed a Higher Education Relief Package, providing funding to providers and support and inexpensive short courses (up to 6 months) in high demand occupations to workers affected by COVID-19 looking to upskill or retrain. The Australian Department for Education Skills and Employment has also been providing online information to TVET institutions on how to adopt flexible and online strategies for training.
- Several countries have developed, besides national guidelines, regional level action plans and recommendations to ensure continuity of initial training and education, including Brasil and Italy. In Jordan, the ministry of higher education and ministry of labour have initiated several policies and provided guidelines, as well started the development of a portal for

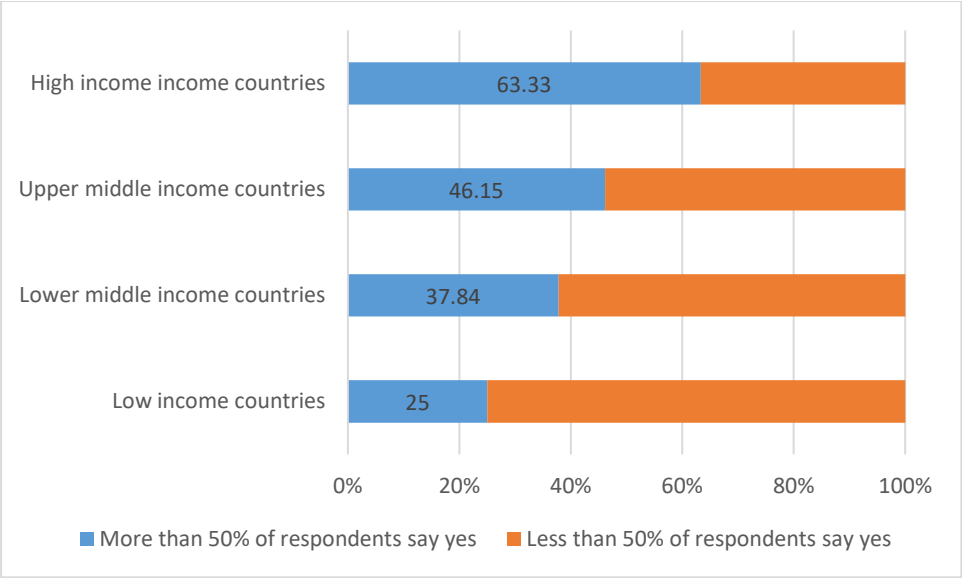
virtual training. In the United States a high number of programme are being developed to train displaced, unemployed workers with tuition reimbursement.

- The tendency to offer free or low cost continuing training is increasing and countries with a strong online presence, such as Finland have been offering a wide variety of distance and online free TVET courses with the possibility of official recognition towards a qualification. The Finnish Library of Open Educational Resources webpage allows to search, compile and share open educational resources (OER) from all levels of education.
- In ChIna, the Education and Youth Affairs Bureau is supporting teachers by initiating tailor-made online teacher training courses.
- Also in Romania and Madagascar targeted training of trainers is being provided.

Measures or services put into place to raise awareness about existing learning solutions and to support individuals in choosing and using them autonomously

Only 31% of respondents declare that their countries have developed initiatives to raise awareness and support learners. Roughly, the same proportion of respondents report that there are no significant initiatives in their countries. A bit over one third of respondent (39%) are not informed about measures to raise awareness about learning solutions or support learners.

Figure 14. Measures put in place to raise awareness (% of countries)



High income (30 countries); Upper middle income (39 countries); Lower middle income (37 countries); Low income countries (20 countries).

- The existence of measures to raise awareness seems to be positively correlated to the countries' income level (Figure 14). In 63% (19 out of 30) of high-income countries, the

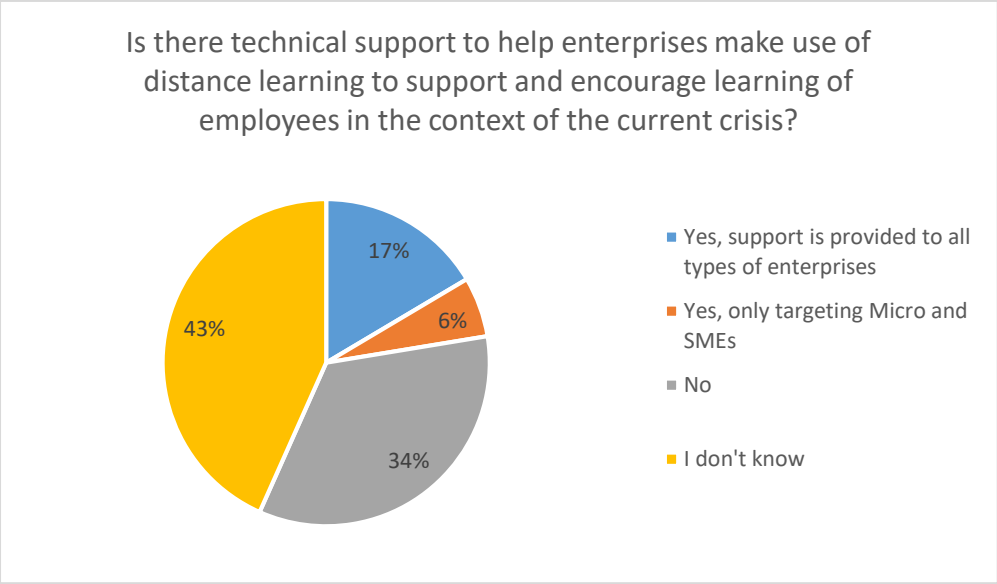
majority of respondents reported measure; for low-income countries, the corresponding share was 25% (5 out of 20 countries).[9]

- Recent reported initiatives include online counselling and communication with students, publication of guidelines on how to use digital platforms, support/information webinars, awareness raising initiatives using diverse media (e.g. social media, TV, radio).
- In Sri Lanka, coaches and training providers are being mobilised to raise awareness and encourage employers to offer workers upskilling opportunities.

3.8 Support to help enterprises make use of online and/or offline distance learning

- There is still limited evidence of targeted initiatives to support learning in enterprises, but measures seem to be growing. In a number of countries, access by enterprises to online courses and publicly supported learning platforms is being facilitated.
- In only 16 countries (out of 126) did respondents indicate that there was support to enterprises including SMEs to make use of distance learning.[10] Of these, only 16% reported that support was delivered to enterprises on the use of distance learning (Figure 15).

Figure 15: Support for Enterprises



- In Mexico, enterprises can have access to online courses through the National College for Technical Education (CONALEP) website.

[9] Country is considered as having raise awareness measures in place if more than 50% of respondents reported measures to raise awareness.

[10] Country is considered as providing technical support to enterprises on distance learning if more than 50% of respondents reported that such support is being provided either to all types of enterprises or only Micro and SMEs. However, this calculation must be interpreted with caution as a third of all countries have only one respondent.

- In Israel efforts are being made so that companies are being supported to manage their employees training making use of CamusIL, the learning management system from the Ministry of Social Equality and the Council for Higher Education. An employer needs identification platform linked to training delivery is also in development.
- In Trinidad and Tobago, universities are providing courses to enterprise managers on how to deal with the COVID 19 situation from a business management perspective.
- In the Republic of Korea, the online technical training platform - Smart Training Education Platform (STEP) provides an online classroom to businesses to access training that can be monitored.
- In Mongolia, a respondent reported that media devices and free cellular data usage of mobile operators have been distributed to the trainers and trainees.
- In Malaysia, various online learning options have been made available to enterprises and the government provides incentives for their use
- A respondent in Côte d'Ivoire noted that the COVID-19 national response plan includes support for enterprises.
- In Brazil, the SENAI (National Service for Industrial Learning created a programme for the companies to be supported during the crisis to receive assistance in the selection and execution of courses. The Kiribati Institute of Technology has an experienced team of IT technicians who can work with local organisations to ensure they have the right set up and resources to facilitate employee online/offline distance learning. Sri Lanka is making targeted business coaching available for enterprise owners.

- While only 6% of the respondents reported targeted initiatives to support MSMEs, there are targeted initiatives under development in Egypt, Bangladesh, Philippines, Nigeria, Tunisia, Canada, Malaysia, Viet Nam, Indonesia, Ukraine, Kyrgyzstan. In some cases, they are making use of e-government programmes and strategies, such as the a2i programme in Bangladesh. Support in the form of free access to internet is being offered in some cases in Kyrgyzstan.
- It must be noted that a significant 43% of the respondents were not aware of any such support measures taken by their institution or in their country.

3.9. Suggested additional measures

- Respondents suggested a large number of additional measures which could be implemented:

Access to infrastructure

- Improve access of teachers, students, people in rural areas and disadvantaged groups to internet, bandwidth, digital equipment and online resources, with the cooperation of telecommunications suppliers

- Provide learners and trainers with access to inexpensive or free digital equipment such as computers and tablets
- Offer incentives to support the transition towards digitalisation of training and purchase of supporting equipment
- Enhance facilities and infrastructure to support the online/web-based learning
- Support to centres, learners and particularly vulnerable groups in accessing digital equipment and internet connections
- Develop digital infrastructure of centres and training providers to quickly adopt online and blended learning
- Subsidising online and distance learning for enterprises and training providers
- Intensify blended learning strategies and ensure that they are affordable
- Introduce freedom of choice of public provider to complete training

Online/offline platforms adapted to training needs

- Develop and make available free learning platforms, video conferencing and VR tools
- Combine several distance learning channels, including television and radio
- Learning platforms should be responsive to learners needs and capacities as well as to TVET providers requests
- Creation of single points of access for college resources online with screening and curation of contents
- Introduction of practical training in online courses
- Alignment of online provision with skills assessments and forecasts
- Support enrolment processes and costs for learners and facilitates assessments/examinations
- Making better use of social networks and youth shows (online, TV) in learning processes and combining them with other media
- Provide financial support for the development of learning platforms
- Development of digital learning platforms
- Capacitate college technically and pedagogically to adopt blended learning strategies
- Further development of online assessment strategies

Adapted pedagogical resources for distance learning

- Development of learning modules in local languages with telecommunication industry support
- Associate online learning to entitlements and universal rights to education, through practical policies
- Expand online learning technologies, software and resources through content and learning management systems
- Increase online learning offer focusing on technical and practical skills, with online tutorials and syllabus and occupational specificity
- Improving distance learning design, methodologies and online flexible assessments

- Reducing obligation of attendance in online courses and improving pedagogic delivery
- Expanding existing online resources in general education to cover TVET
- Standardisation of best practices of online assessment during the pandemic
- Government support to "digitalization" of companies in terms of subsidizing/promoting the development of online services (e-learning platforms, e-commerce etc.)
- Incorporating Virtual and Augmented Reality into TVET-related courses where applicable, and where the resources exist.
- Creating hotlines for students and trainers seeking technical support.
- Production of training videos oriented for development of practical skills
- Diversify media channels used for distance learning, besides the internet, such as TV and radio

Crisis anticipation and management

- Create a regulatory framework for blended learning in TVET
- Plan for the post COVID-19 world, instead of just providing reactive measures
- Target online free skills training for all furloughed or recently unemployed persons
- Establish cooperative, multi-stakeholder planning for post-COVID 19 period, taking into account economic and social impacts
- Introduction of regulatory and funding policy changes to improve access to flexible, short cycle education training options including micro-credentials.
- Providing more support to distance learning, supporting infrastructures for trainers, trainees and be more rigorous in applying the learning activities with continuous formative assessment, asking for reflection from trainers and trainees.
- Needs assessment among employers regarding their new entrepreneurial activities in Covid-19 times and reorientation of the workers.
- Greater coordination among actors and support needed to transition applied courses into virtual platforms.
- Develop an emergency education strategy
- TVET policy should include response in such a situation of crisis.
- Maintenance of health and safety measures such as disinfection of learning spaces, use of masks and gloves during training. reorganization of training cabinets, maintaining the distance between the candidates and intensification of home over school learning

Student preparedness and support

- Maximize the effectiveness of online learning through strengthening students' self-learning and self-management skills.
- Enhance the interaction between teacher and students online through innovative teaching activities
- Intensify outreach initiatives for young people and mental and physical support to both learners and teachers
- Transition to virtual learning to be done with the poorer sections of society in mind.

- Ensuring that opportunity is provided for all persons in need to ensure that poor and vulnerable populations are not marginalised.
- Paying more attention on trainees self-learning environment and encourage parents' participation and make them spend more time with their children.
- Providing computers to poor families and offer them mobile data packages and telecommunication subsidies.
- Introduction of digitally supported personal learning plans combined with flexible learning and emphasis on formative assessments
- Make holistic support available to parents via tutors, psychologists and other relevant professionals

Teacher training and support

- Training teachers and trainers on digital tools and adequate methods, as well as access obtain online learning resources
- More focus needed on psychosocial support in parallel with the learning activities
- Providing better quality insurance to teachers
- Training of teachers and trainers in digital skills, use of new methods and pedagogical tools
- Develop systems to protect teachers from over time work

Section IV – TVET related online training that could be useful for other countries

Highlights of information provided about online materials that can be useful for VET providers:

General online learning resources and tools

- Moodle: https://moodle.org/
- Google classroom: https://classroom.google.com/
- Commonwealth of Learning: www.Col.org
- Scientific Animation Without Borders (SAWBO): https://sawbo-animations.org/home/
- Thinkific: https://www.thinkific.com/blog/low-cost-tools-create-online-course/
- Canvas: https://canvas.instructure.com/login/canvas
- Zoom: https://zoom.us/
- Skype: https://www.skype.com/en/
- Google Hangouts: https://hangouts.google.com/
- Schoology: https://www.schoology.com/
- Microsoft Teams: https://www.microsoft.com/en-US/microsoft-365/microsoft-teams/group-chat-software
- Emodo: https://new.edmodo.com/?go2url=%2Fhome
- Blackboard (requires subscription): https://www.blackboard.com
- Padlet: https://fr.padlet.com/
- Google Meet: https://meet.google.com/ (soon to become a free platform)

- Telegram: https://telegram.org/
- Tencent Meeting: https://meeting.tencent.com/sg/en/
- DingTalk: https://www.dingtalk.com/en
- Workplace: https://sos-youthlinks.workplace.com/

Guides for training providers and teachers on distance learning

- UNESCO: https://en.unesco.org/news/covid-19-10-recommendations-plan-distance-learning-solutions
- Australian guidelines for TVET: https://www.dese.gov.au/covid-19/vet
- Joint Education Trust (JET): https://www.jet.org.za/research-bootcamp
- UNESCO-UNEVOC https://unevoc.unesco.org/home/COVID-19+disruptions
- The Open Education Consortium (OEC): https://www.oeconsortium.org/about-oec/
- Open Educational Resources (OER): https://www.oercommons.org/
- Canadian information on COVID 19 for education and training: http://www.education.gouv.qc.ca/coronavirus/

Global/Regional level - Contents for Online and/or offline distance learning

- Khan Academy: https://www.khanacademy.org/
- OSM Maritime Leaders Academy (MLA): https://mla-ilearn.osm.no/
- Regional platform (in Spanish): https://www.aprendoencasa.org/
- Public Health Virtual Campus (Campus Virtual de Salud Pública) – Pan-American Health Organization/WHO (in Spanish): https://www.campusvirtualsp.org/es

National/local level - Contents for Online and/or offline distance learning

- Educational contents provided by Ministry of Labour, TVET and Handicraft (in French): https://e-jang.sec.gouv.sn/ (Senegal)
- Online courses by South African TVET colleges: https://online.tvetcolleges.co.za/home (South Africa)
- XuetangX, online learning platform by Tsinghua University (in English): https://next.xuetangx.com/ (China)
- "Learning portal by the Education and Youth Affairs Bureau (in English): https://portal.dsej.gov.mo/webdsejspace/site/studyarrange/index-e.jsp (Macau, China)
- China United Training (in Chinese): www.zlpx.cn
- Vocational Education Digital Learning Center (in Chinese): https://www.icve.com.cn/
- TESDA Online Programme: https://www.e-tesda.gov.ph/ (Philippines)
- CeLT (Center for eLearning and Teaching): http://cidos.edu.my/ (Malaysia)
- Polyteknik Learning Management System: http://psmza.cidos.edu.my/ (Malaysia)

- CampusiL: https://campus.gov.il/en/about/ (Israel)
- Pravo Academy (in Arabic): www.pravo.academy (Jordan)
- Contents for basic and secondary education provided by the Austrian Ministry of Education (in German): https://eduthek.at/schulmaterialien (Austria)
- Belfast Met: www.belfastmet.ac.uk (Northern Ireland)
- Honduras Educational Portal: https://www.youtube.com/channel/UCUgEDDVzvtkMMWoGhFppA6Q/featured (Honduras)
- Online learning material (basic and secondary education) provided by Chilean Ministry of Education (in Spanish): https://curriculumnacional.mineduc.cl/estudiante/621/w3-propertyname-822.html (Chile)
- INTECAP Guatemala (Productivity and Technical Training Institution) (in Spanish) - https://intecap.edu.gt/ (Guatemala)
- Online learning material (Fundación Carlos Slim) (in Spanish): https://capacitateparaelempleo.org/ (Mexico)
- MOOC platform "MéxicoX" by the Mexican Secretariat of Public Education (in Spanish): https://www.mexicox.gob.mx/ (Mexico)
- Aula Central: https://mi.aulacentral.rocks (Mexico)
- Conalep: https://cursos.conalep.edu.mx/(Mexico)NT3LM https://nt3lm.com/ (Egypt)
- Bharat Skills: https://bharatskills.gov.in/ (India)
- Sovorir: https://sovorir.am/ (Armenia)
- HRD Korea information platform: http://www.hrd.go.kr/hrdp/ma/pmmao/indexNew.do (Republic of Korea)
- TESDA online programme https://www.e-tesda.gov.ph/ (Philippines)
- Online skills platform https://www.confederationcollege.ca/ (Canada)
- Skills gateway https://idan.is/um-okkur/english/ (Iceland)
- Ucidoma https://www.ucidoma.me/ (Montenegro)
- Virtual professional learning https://nastava.asoo.hr/ (North Macedonia)
- National skills gateway https://soutiensco.men.gov.ma/ (Morocco)
- National skills gateway http://www.emploi.nat.tn/fo/Fr/global.php (Tunisia)
- Meseria Mea: http://meseriamea.com/ (Moldova)
- Skills gateway https://www.rea.ru/ (Russia)
- Careerforce: https://www.careerforce.org.nz/hand-hygiene-and-infection-prevention/ (New Zealand)
- MIT Open Courseware: https://ocw.mit.edu/index.htm (United States)
- National Board of Education (available solutions, tools, games and resources for online learning in TVET): https://www.oph.fi/fi/koulutus-ja-tutkinnot/etaopetuksen-erilaisia-toteutustapoja-ammatillisessa-koulutuksessa (Finland)
- Library of Open Educational Resources: https://aoe.fi/#/etusivu (Finland)
- Open TVET studying material and videos: https://www.avoimetammatillisetopinnot.fi/fi/materiaalit/oppimateriaalit (Finland)
- Guidance videos for teachers and students: https://oppiva.omnia.fi/verkossa-oppiminen/?cookie-state-change=1588153869080 (Finland)

- Online learning materials on entrepreneurship and economic skills, collected by Economy and Youth –Association (TAT): https://www.tat.fi/opettaja/ (Finland)
- Kiribati Institute of Technology: https://www.chisholm.edu.au/ (Kiribati)
- Australian short online course information: https://www.dese.gov.au/news/short-online-courses-available (Australia)
- Free online courses in Portuguese: http://web.iema.ma.gov.br/maranhaoprofissionalizado/start/ (Brazil)
- Online learning resources and tools in Chinese: https://portal.dsej.gov.mo/webdsejspace/site/studyarrange/index-e.jsp?con=news (China, Macau)
- Study material provided by the Secretariat of Education of the State of Espírito Santo (in Portuguese): www.sedu.es.gov.br/escolar (Brazil)
- Videos/tutorials provided by Secretariat of Education of Piauí (in Portuguese): https://www.canaleducacao.tv/ (Brazil)
- List of online learning materials (in Russian): https://firo.ranepa.ru/oprosy-firohttps://firo.ranepa.ru/meropriyatiya/serii-meropriyatij/768-mobilniy-kolledj-rossii (Russian Federation)
- Online video learning material: https://kinniyazone.lk/ (Sri Lanka)

Annex

Table A1: List of countries

Country	Region	Income group	Number of respondents as of May 15, 2020
Afghanistan	Asia and the Pacific	Low income	2
Albania	Europe and Central Asia	Upper-middle income	5
Angola	Africa	Lower-middle income	2
Argentina	Americas	High income	5
Armenia	Europe and Central Asia	Upper-middle income	56
Australia	Asia and the Pacific	High income	4
Austria	Europe and Central Asia	High income	1
Azerbaijan	Europe and Central Asia	Upper-middle income	1
Bahamas	Americas	High income	1
Bangladesh	Asia and the Pacific	Lower-middle income	4
Barbados	Americas	High income	2
Belgium	Europe and Central Asia	High income	4
Belize	Americas	Upper-middle income	3
Benin	Africa	Low income	1
Bhutan	Asia and the Pacific	Lower-middle income	7
Bolivia (Plurinational State of)	Americas	Lower-middle income	1
Bosnia and Herzegovina	Europe and Central Asia	Upper-middle income	4
Brazil	Americas	Upper-middle income	9
Brunei Darussalam	Asia and the Pacific	High income	1
Burkina Faso	Africa	Low income	5
Burundi	Africa	Low income	1
Cabo Verde	Africa	Lower-middle income	1
Cambodia	Asia and the Pacific	Lower-middle income	25
Canada	Americas	High income	6
Central African Republic	Africa	Low income	1
Chad	Africa	Low income	2
Chile	Americas	High income	6
China	Asia and the Pacific	Upper-middle income	29
Colombia	Americas	Upper-middle income	4
Congo	Africa	Lower-middle income	3
Costa Rica	Americas	Upper-middle income	1
Croatia	Europe and Central Asia	High income	1
Cuba	Americas	Upper-middle income	1
Cyprus	Europe and Central Asia	High income	1
Côte d'Ivoire	Africa	Lower-middle income	3

Democratic Republic of Congo	Africa	Low income	6
Dominica	Americas	Upper-middle income	1
Dominican Republic	Americas	Upper-middle income	1
Ecuador	Americas	Upper-middle income	110
Egypt	Africa	Lower-middle income	7
El Salvador	Americas	Lower-middle income	5
Eswatini	Africa	Lower-middle income	6
Ethiopia	Africa	Low income	2
Finland	Europe and Central Asia	High income	1
France	Europe and Central Asia	High income	1
Gabon	Africa	Upper-middle income	1
Georgia	Europe and Central Asia	Lower-middle income	1
Ghana	Africa	Lower-middle income	16
Grenada	Americas	Upper-middle income	5
Guinea	Africa	Low income	1
Guyana	Americas	Upper-middle income	2
Haiti	Americas	Low income	1
Honduras	Americas	Lower-middle income	2
Iceland	Europe and Central Asia	High income	4
India	Asia and the Pacific	Lower-middle income	12
Indonesia	Asia and the Pacific	Lower-middle income	6
Iraq	Arab States	Upper-middle income	7
Israel	Europe and Central Asia	High income	1
Italy	Europe and Central Asia	High income	2
Jamaica	Americas	Upper-middle income	2
Japan	Asia and the Pacific	High income	1
Jordan	Arab States	Upper-middle income	82
Kazakhstan	Europe and Central Asia	Upper-middle income	17
Kenya	Africa	Lower-middle income	10
Kiribati	Asia and the Pacific	Lower-middle income	2
Kosovo[11]	Europe and Central Asia	Upper-middle income	1
Kyrgyzstan	Europe and Central Asia	Lower-middle income	8
Lao People's Democratic Republic	Asia and the Pacific	Lower-middle income	3
Lebanon	Arab States	Upper-middle income	16
Lesotho	Africa	Lower-middle income	1
Libya	Africa	Upper-middle income	1
Lithuania	Europe and Central Asia	High income	1
Madagascar	Africa	Low income	19
Malawi	Africa	Low income	1

[11] as defined by the UN Security Council Resolution 1244

Malaysia	Asia and the Pacific	Upper-middle income	407
Maldives	Asia and the Pacific	Upper-middle income	1
Malta	Europe and Central Asia	High income	1
Mauritania	Africa	Lower-middle income	1
Mauritius	Africa	Upper-middle income	4
Mexico	Americas	Upper-middle income	73
Moldova	Europe and Central Asia	Lower-middle income	13
Mongolia	Asia and the Pacific	Lower-middle income	6
Montenegro	Europe and Central Asia	Upper-middle income	4
Morocco	Africa	Lower-middle income	7
Mozambique	Africa	Low income	7
Myanmar	Asia and the Pacific	Lower-middle income	5
Namibia	Africa	Upper-middle income	1
Nepal	Asia and the Pacific	Low income	3
New Zealand	Asia and the Pacific	High income	2
Nigeria	Africa	Lower-middle income	11
North Macedonia	Europe and Central Asia	Upper-middle income	4
Occupied Palestinian Territory	Arab States	Lower-middle income	4
Pakistan	Asia and the Pacific	Lower-middle income	4
Peru	Americas	Upper-middle income	5
Philippines	Asia and the Pacific	Lower-middle income	37
Portugal	Europe and Central Asia	High income	1
Qatar	Arab States	High income	1
Republic of Korea	Asia and the Pacific	High income	4
Romania	Europe and Central Asia	Upper-middle income	1
Russian Federation	Europe and Central Asia	Upper-middle income	3
Saint Lucia	Americas	Upper-middle income	1
Saudi Arabia	Arab States	High income	2
Senegal	Africa	Low income	7
Slovenia	Europe and Central Asia	High income	1
South Africa	Africa	Upper-middle income	8
South Sudan	Africa	Low income	5
Spain	Europe and Central Asia	High income	2
Sri Lanka	Asia and the Pacific	Lower-middle income	42
Sudan	Africa	Lower-middle income	15
Thailand	Asia and the Pacific	Upper-middle income	6
Tonga	Asia and the Pacific	Upper-middle income	1
Trinidad and Tobago	Americas	High income	4
Tunisia	Africa	Lower-middle income	13
Turkmenistan	Europe and Central Asia	Upper-middle income	1
Uganda	Africa	Low income	2

Ukraine	Europe and Central Asia	Lower-middle income	8
United Arab Emirates	Arab States	High income	3
United Kingdom of Great Britain and Northern Ireland	Europe and Central Asia	High income	4
United Republic of Tanzania	Africa	Low income	4
United States of America	Americas	High income	3
Uzbekistan	Europe and Central Asia	Lower-middle income	5
Venezuela (Bolivarian Republic of)	Americas	Upper-middle income	1
Viet Nam	Asia and the Pacific	Lower-middle income	15
Yemen	Arab States	Low income	6
Zambia	Africa	Lower-middle income	7
Zimbabwe	Africa	Low income	4