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► Skills development in the time of COVID-19:

Taking stock of the initial responses in technical
and vocational education and training

Key findings



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Skills development in the time of COVID-19: Taking stock of the initial responses in technical and vocational education and training - Key findings

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► Foreword

The coronavirus disease (COVID-19) pandemic and related lockdown and physical distancing measures caused not only unprecedented disruption in the provision of education and training but also catalysed innovation, in particular in distance learning. While access to learning and skills development was maintained in some contexts through a rapid shift to distance learning in technical and vocational education and training (TVET), the pre-existing social and digital divides deprived the most marginalized groups of continued learning and put them at risk of falling further behind. With only a few exceptions, the increased adoption of distance learning solutions by TVET programmes has not facilitated the acquisition of practical skills and organization of work-based learning, which are essential components for the success of technical and vocational education. Business closures and losses in profits had impacts on employment and prospects of decent work and caused cuts in the offer of apprenticeship placements in enterprises. Lack of operational distance-learning platforms and educational resources, disruptions to assessment and certification, and a general decline in the quality of training caused demotivation among learners and teachers and, together with rising economic hardship, increased the likelihood of people dropping out of education.

Yet, the crisis may have an upside, as demonstrated in the present publication, which is based on the results of an online survey of the effects of the COVID-19 pandemic on the provision of TVET and skills development, conducted by the International Labour Office (ILO); the United Nations Educational, Scientific and Cultural Organization (UNESCO); and the World Bank between 5 April and 15 May 2020. The survey revealed a multitude of promising practices in the development of flexible learning and assessment options, ranging from high-tech to low-tech and even no-tech solutions, dictated by local contexts and evolving as the crisis unfolded. Public and private stakeholders in TVET have promptly forged partnerships to increase the availability of accessible distance learning solutions, develop new training programmes and allocate additional resources for mitigating skills and labour shortages in sectors heavily affected by the health crisis.

The results of these collective efforts have led to the emergence of innovative solutions in response to the pandemic, but we must remember that, without further efforts to rebuild better TVET systems, those innovative responses will become merely a short-lived trend. In this context, this publication shares the lessons learned by TVET providers, governments and social partners from COVID-19 responses and discusses how we can strengthen TVET systems during the recovery period and develop greater resilience to future shocks. We believe that the findings set out in this publication will facilitate recognition of both the challenges and the opportunities to build crisis-proof TVET systems, ensure better preparedness and a swift recovery, and to achieve the 2030 Agenda for Sustainable Development.

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► Key findings

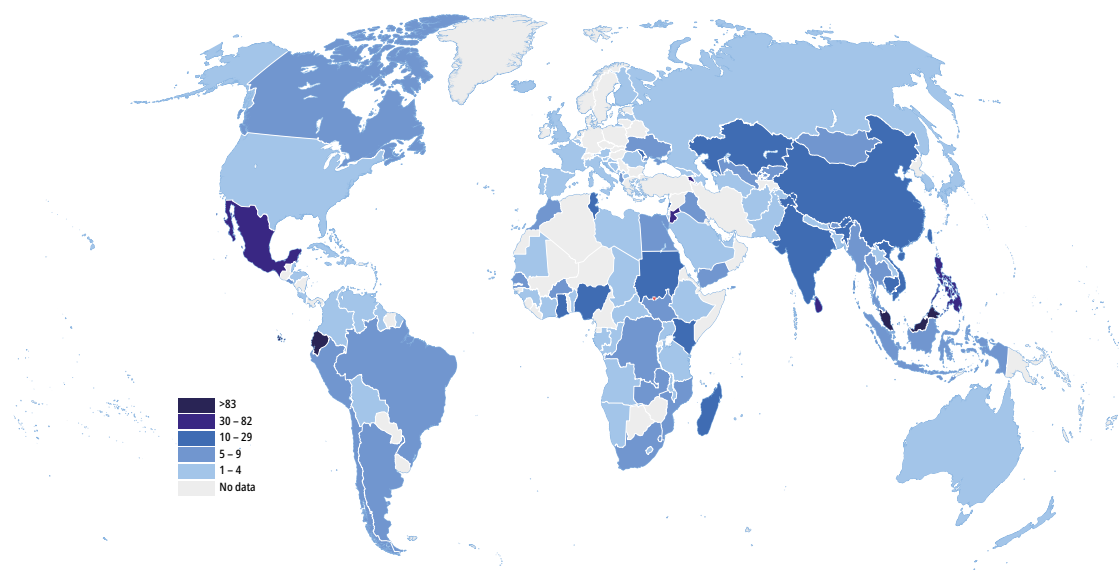
The COVID-19 pandemic has affected economies and societies around the world and caused an unprecedented fall in economic activity, the loss of working hours and income, and a sharp rise in unemployment and underemployment. The situation jeopardizes the accomplishment of the Sustainable Development Goals (SDGs), in particular Goal 8: “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,” and its target 8.5, which calls for the achievement, by 2030, of “full and productive employment and decent work for all.” Along with effects on labour markets, the COVID-19 pandemic has disrupted education and training at all levels with complete closures of training institutions in the vast majority of countries. Technical and Vocational Education and Training (TVET) programmes have been particularly hard hit, given their unique focus on work-based learning and the acquisition of practical skills. Business closures and losses in revenues have caused cuts in the offer of apprenticeship placements in enterprises.

In the light of the crisis, the partner agencies the International Labour Office (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank launched an interagency survey to take stock of the initial responses in TVET and skills development in the time of COVID-19. It was administered online between 5 April and 15 May 2020 in eight different languages (Arabic, Chinese, English, French, Portuguese, Russian, Spanish and Vietnamese) to understand the challenges faced by TVET institutions during this crisis and to identify emerging innovations implemented in different contexts, in order to facilitate the sharing of information among TVET providers, policymakers and social partners.

The report is based on the findings of this interagency survey, which collected information on policies, training measures, the challenges faced, and the resources developed from 1,353 respondents, representing 126 countries from all over the world (figure 1).¹ Roughly three quarters of the respondents worldwide were representatives of TVET providers, 17 per cent were policymakers, and other respondents included social partners. The report is intended to help countries to address the impacts of current and future crises in their delivery of TVET and to manage the learning and training process more effectively and to a high standard. Lessons will also be useful for the post-crisis period, to strengthen the resilience and responsiveness of TVET systems and to inform broader reform efforts.

¹ While for some countries, including Malaysia and Ecuador, the number of respondents exceeded 100, for most others only a limited number of respondents participated in the survey. The analysis in the report is presented mostly by number of respondents. For a series of questions concerning country-level policies and measures, some analysis was conducted for country income and region groups, using population-based weights in an attempt to correct for aggregation error resulting from the overrepresentation and underrepresentation of different constituent groups.

► Figure 1. Geographical distribution of respondents



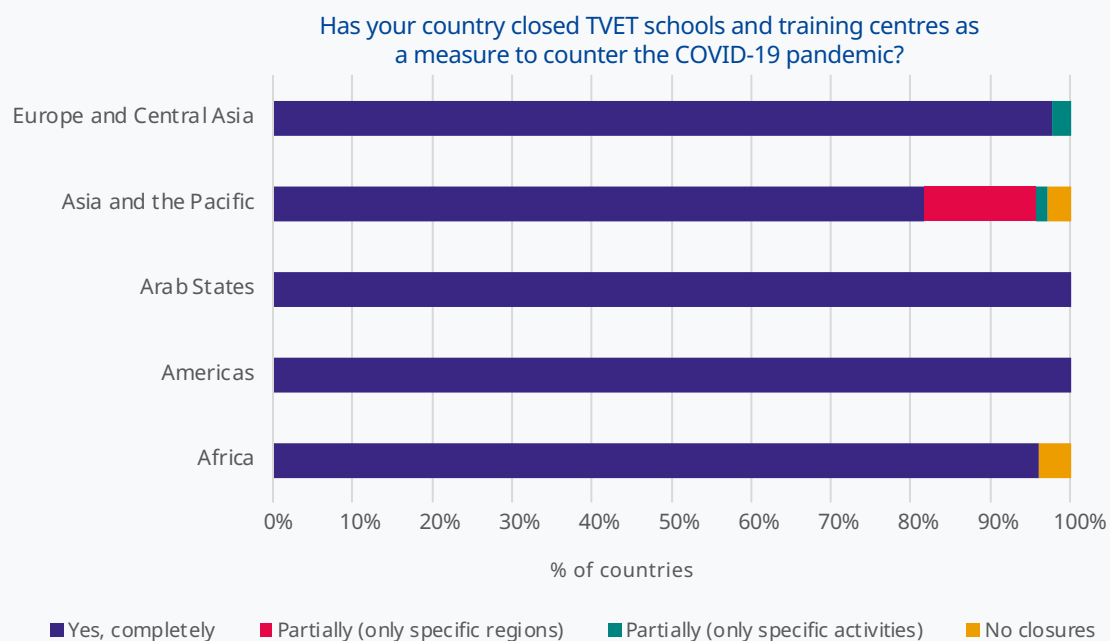
Source: ILO-UNESCO-World Bank online survey, 2020

Sudden closure of a large majority of TVET centres seriously disrupted the continuity of TVET

According to the survey conducted among TVET providers, policymakers and social partners, 90 per cent of respondents reported a complete closure of TVET centres in their countries in response to the spread of the pandemic and their governments' containment measures. In 114 countries (out of 126), a complete closure was reported by the majority of the respondents.² A partial closure limited to specific regions was more commonly reported by respondents in Asia and the Pacific, while closures limited to certain activities were more prevalent in Europe and Central Asia than in the other regions (figure 2). The results are consistent with the stringency of the government responses over the survey period as measured by the Government Response Stringency Index created by Oxford University.³ Respondents reporting complete closure were in countries that, on average, had the most stringent government responses, followed by those reporting partial closure, either for only specific activities or regions. Respondents that reported no closure were in countries with the lowest average stringency.

² This calculation must be interpreted with caution, as about one third of countries have only one respondent. It must also be noted here that, in some countries, respondents provided different information concerning complete or partial closure of TVET institutions and only some of these inconsistencies could be resolved through data checks.

³ Oxford COVID-19 Government Response Tracker 2020.

► **Figure 2. Closure of TVET centres by region**

Note: Africa (186 respondents); Arab States (121 respondents); Europe and Central Asia (159 respondents); Americas (255 respondents); Asia and the Pacific (632 respondents). The figure is based on a calculation using post-stratification weighting and data that have undergone quality checks.

Challenges faced by TVET systems before the pandemic appear to have been worsened by the onset of this crisis

In most countries, respondents noted a shift towards remote training measures to ensure continuity of training but at the same time, the survey results highlighted the unpreparedness of TVET systems to face this challenge. The reported obstacles to continuity in the provision of training to TVET learners include:

► **Lack of general and technological infrastructure: electricity, internet, connectivity and devices**

The urgent need to shift to distance learning modalities was constrained by the lack of adequate infrastructure. In many countries, challenges related to the supply of electricity, online connectivity, low bandwidth, and the lack of network capacity to cope with increased data usage seemed to add to the difficulties of switching to remote training modalities. The additional data usage costs incurred for distance learning were mostly borne by the students and teachers. The digital divide between urban and rural areas was also highlighted as another serious obstacle in many countries.

► **Lack of effective and user-friendly distance learning platforms**

The quality of remote learning depends greatly on the functionality of the learning platforms and tools through which programmes are delivered. The COVID-19 crisis has highlighted the fact that effective distance learning platforms in support of remote instruction are generally lacking in vocational education and training systems, especially when they need to be deployed on a national scale.

► **Lack of staff capacity to support distance learning through quality pedagogical resources**

TVET providers from many countries such as Canada, India, Morocco and the Republic of Korea reported the lack of preparedness of TVET teachers and learners to adopt distance-learning modalities, as a consequence of the low level of digital skills.

► **Financial resource constraints**

The onset of the health crisis and the resulting lockdown led to challenges related to cash flow and financial viability, in particular for small TVET providers. This can be attributed to the sudden loss of income from sources such as tuition fees and the income-earning activities of TVET centres. The resulting impact on finances has constrained the ability of TVET centres to invest time and money in the development of distance learning infrastructure and in some cases to pay trainers' salaries.

TVET experienced a particular challenge in ensuring the continuity of practical skills training measures as well as assessments and certifying exams during the pandemic

In most TVET programmes, practical training is a critical dimension and one that is not easily deliverable through remote modalities for many occupations. It is difficult to replicate the workplace experience without virtual reality and augmented reality simulator technology, and these solutions are often out of reach for TVET institutions, especially in low and middle-income countries. In addition to the practical training modules provided in workshops and laboratories, TVET programmes often include a work-based learning component wherein trainees participate in practical training at the workplace in the form of apprenticeships and internships.

The survey respondents overwhelmingly reported the disruption of work-based learning due to the closure of enterprises across all regions of the world, with between 95 and 100 per cent of respondents across regions reporting such disruptions. In most countries where essential enterprises in the construction, manufacturing, and personal services sectors remained open, on-the-job training activities either stopped or continued at a much lower scale with the addition of strict health and safety measures. The crisis also led to the disruption of assessments and certifying exams that a large majority of respondents (approximately 78 per cent) indicated that certifying exams and assessments were postponed for TVET trainees and students and in some cases even cancelled.

The disruption of TVET programmes during the pandemic can lead to serious longer-term consequences and erase the previous progress made in improving TVET

The results of the survey highlight the lack of resilience of TVET systems when faced with a crisis of the scale and nature of COVID-19, and how this can exacerbate the pre-existing challenges in those systems. The crisis has shone light on the lack of adequate technological infrastructure, digital skills and pedagogical resources, and demonstrated the negative consequences that such lack of preparedness can have in the short and longer term, in particular for the most disadvantaged population groups. The disruptive consequences of the COVID-19 pandemic may result in reduced access to and affordability of TVET programmes, difficulties with TVET student engagement and quality assurance, an increase in the opportunity cost of completing TVET programmes, a lack of motivation among teachers and students and a rise in the dropout rate.

On the plus side, the COVID-19 outbreak has accelerated the uptake of distance learning approaches in TVET

The findings of the survey show that the crisis has triggered a rapid transition to distance education and training in the delivery of TVET. As an illustration, the majority of TVET respondents in 46 out of 92 countries reported the provision of courses that were entirely based on remote learning during the pandemic,⁴ whereas prior to the COVID-19 outbreak the majority of TVET respondents in only 13 out of 92 countries used to provide online distance learning regularly or often. While around 15 per cent of TVET providers participating in the survey indicated that no online or offline distance learning was offered at the time of the survey, around 66 per cent reported that training was provided completely remotely. Roughly 12 per cent of participating TVET providers reported that training was provided partially remotely and partially face-to-face.

In some countries, alternative approaches were introduced to provide practical skills training and conduct assessments during the crisis

Despite the observed challenges, TVET providers reported efforts to ensure the continued delivery of practical skills training, and also of assessment during the crisis. For example, in countries where COVID-19 spread was low and containment measures were less stringent, apprenticeships and practical training continued and assessments were conducted in person, but using precautionary measures and limiting the number of students on site at the same time. In other cases, both online and offline platforms and tools were mobilized to deliver the practical aspects of training. The use of offline platforms, including national television channels, to disseminate practical knowledge was reported by such countries as the Democratic Republic of the Congo, Madagascar and Pakistan, and the development and distribution of written resources such as self-paced learning guides and learner notes were also reported by many countries. Alternative methods were also reportedly implemented for practical knowledge and skills assessment, often through virtual platforms. For example, in Ecuador

⁴ A country is considered as providing fully remote training if more than 50 per cent of its respondents representing TVET providers reported that they provide remote rather than face-to-face training. This calculation must be interpreted with caution, however, as one third of all countries have only one TVET provider respondent.

and Finland, students were reported to be carrying out practical tasks at home and uploading them on to platforms or sending videos and photos of completed work for evaluation by teachers.

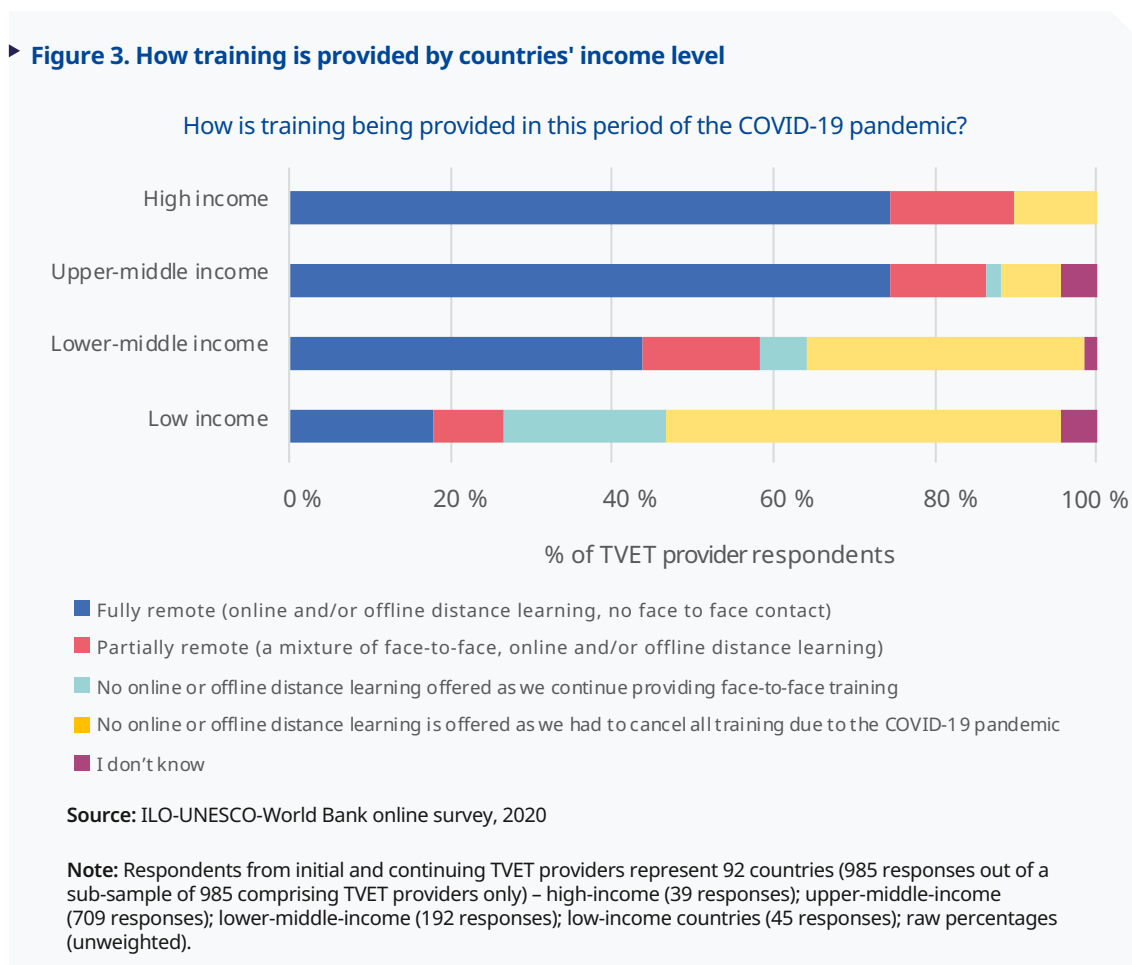
The crisis has brought to the fore the gaps in access to learning opportunities between and within countries

While more than two thirds of TVET providers reported that they were delivering training entirely by remote methods during the pandemic, very few in low-income countries were able to make that transition (figure 3).⁵ Based on the sub-sample comprising TVET providers, in 72 per cent (13 out of 18 countries) of high-income countries, the majority of TVET providers reported providing training fully remotely, whereas the corresponding share was only roughly 12 per cent (2 out of 17 countries) for low-income countries.⁶ In addition, 51 per cent of TVET providers from Africa, mostly from low and lower-middle income countries, reported that no online or offline distance learning was provided to compensate for cancellations related to the COVID-19 pandemic.

In addition, to provide courses and training remotely, more than half of the TVET providers surveyed reported that providers in their country used only online learning platforms and a third reported the use of a mix of online and offline distance learning tools. Given the access issues related to online remote learning modalities even in middle-income and higher-income contexts, TVET providers switching to purely online distance learning may risk leaving the disadvantaged learners without equitable access to learning opportunities, unless adequate measures are taken to overcome the digital divide. Furthermore, depending on the readiness and capacity of institutions and learners to adapt to changing learning environments even within the same country, not all students, and in particular those from low-income households, have equal access to good quality education and training. Without an appropriate and timely policy response to ensure equal opportunities for continuous education and training in TVET, the pre-pandemic gaps in learning between the haves and have-nots between and within countries may widen.

5 There is an association between the way in which the training was provided and the stringency of government measures in response to COVID-19. Respondents that had to cancel all training or provided fully remote training were in countries with the highest stringency index values, on average. By contrast, respondents that had no distance learning and continued providing face-to-face training were in countries with the relatively lowest stringency of government responses as per the Oxford COVID-19 Government Response Tracker 2020.

6 See footnote 4 above.

► **Figure 3. How training is provided by countries' income level**

The pandemic has given impetus to the further mobilization of human and financial resources to expand distance learning

The survey results provided some evidence on the level of commitment by both initial and continuing TVET providers in supporting distance learning to meet the challenge of the COVID-19 pandemic. Almost half⁷ of the surveyed TVET providers, representing the vast majority of surveyed countries (72 out of the total of 92), reported that additional resources were being committed in their organizations for the creation of new materials, deployment of new technologies and expanded use of online and offline distance learning. Reported commitments for additional human and financial resources by TVET provider organizations correlated positively with respondent countries' income levels. While the trend applies to both initial and continuing TVET provider organizations, additional resources were more likely to be reported by respondents representing continuing TVET providers for each country income group.

⁷ 48 per cent of all respondents representing TVET providers (483 out of a total of 984) reported that their TVET institutes have committed additional resources to support distance learning.

New partnerships facilitated the development and deployment of innovative solutions for TVET

The survey found evidence of cooperation between TVET institutions and schools, telecommunication operators, technology providers and governments. Some partnerships resulted in the provision of digital equipment to teachers and disadvantaged learners. The survey also identified partnerships for developing learning platforms and conducting related user training, such as in Nigeria, where IBM and the Federal Ministry of Youth and Sports Development reportedly cooperated in the development of an online digital platform for the training of young people. In addition, cooperation was used to facilitate and sustain digital and distance learning by TVET providers and enterprises who often lacked the necessary technical capacity or who required help in adjusting existing methodologies and tools. For example, according to a TVET provider in Ethiopia, the digital upskilling of teachers was conducted in collaboration with Google. Through cooperation, efforts were also made to develop effective ways to assess and certify skills, an area of TVET and work-based learning significantly affected by the COVID-19 disruptions.

New TVET training programmes, actions and resources have contributed to the immediate pandemic response, particularly in addressing skills shortages

Under 20 per cent of surveyed TVET providers deployed new or expanded online or offline distance learning materials or technologies to address skill shortages in occupations or sectors affected by the COVID-19 pandemic at the time of the survey. In those cases where the presence of measures to address skills shortages in essential sectors due to COVID-19 was reported, the following types of measures were identified by survey respondents:

- Developing new and innovative training programmes and expanding existing courses
- Developing new training materials and resources, both online and offline, and converting existing learning materials into an online format
- Analysis of training needs initiated by governments and social partners
- Support services to explain questions related to distance learning and assessments for parents, students, teachers and frontline workers
- Recruitment and training of additional teachers and trainers
- Training subsidies and other forms of direct support for affected sectors
- Reorientation of training centres towards the production of protective equipment
- Deploying workers, jobseekers, migrant workers and refugees for sectors in need, including fast-track licences and formal and informal recognition of skills

In most countries, measures were put in place to support teachers and trainers during the pandemic

There are only 16 countries (13 per cent of the total) in which none of the respondents reported any support measures. The type of reported assistance varied widely and mostly consisted of support and capacity-building for remote training. Assistance included moral support, internet access and, sometimes, the provision of ICT or camera equipment to facilitate remote learning. The most frequently cited type of support was capacity-building to help teachers and trainers provide remote training. This included the provision of resources and online training, sometimes complemented by technical support or help desks.

Most countries appear to have lacked a crisis response strategy for TVET prior to the COVID-19 crisis

In response to the question as to whether a pre-existing crisis-response strategy was being implemented, only 15 per cent of respondents indicated that the strategy being implemented had been entirely in place prior to the outbreak. Another 28 per cent reported that the strategy under implementation had been partially in place before the outbreak. Around four out of ten respondents (41 per cent) reported that the strategy being implemented did not exist at all previously. Reported strategies to prevent the spread of the pandemic most often related to measures that are not specific to the education sector, including physical distancing measures, handwashing and wearing face masks. It appears, from respondents' reports, that any pre-existing strategies for the regular provision of remote learning were concerned with material and practices for distance learning that had been developed without explicitly forming part of a crisis-response approach.

There appears to have been little systematic effort to support employers in using lockdowns to train their staff

The survey does not reveal any strong support or incentives having been provided to enterprises to facilitate online or offline distance learning of their employees in the context of the current crisis.⁸ More than three quarters of the total number of respondents, and the majority of respondents in more than half of the surveyed countries (51 per cent), were unaware of such support. In those cases where the presence of support was reported, this appears to relate to online training that was already available prior to the outbreak of the COVID-19 pandemic. Examples of support that was provided specifically in response to the pandemic include efforts to ensure workplace safety and to train health-care staff.

Importance of remote learning, socio-emotional skills and future crisis preparedness are three lessons learned from the pandemic

Reported lessons learned during the recent phase of the pandemic fall into three broad areas: first, the importance of remote learning, including for the acquisition of practical skills, and preconditions

⁸ It is possible that employers are increasing employee training without systematic external support. Since the survey did not target employers, it does not provide information on this.

for its high-quality provision; second, the importance of specific socio-emotional skills and behaviour that facilitate resilience to crises; and, third, preparedness for future shocks. On the first point, various respondents highlighted their experience of blended learning, noting the importance of its role and its potential value beyond the crisis. On the second point, respondents pointed to specific socio-emotional skills, behaviour and values, such as teamwork, mutual respect and openness to change, that had been of particular assistance in the crisis response. Lastly, there was widespread recognition that development of detailed and realistic contingency plans can make TVET providers and the overall system better able to weather and rebound from future crises.

A set of policy recommendations in the report suggest the three main areas where TVET stakeholders can work together during and after the COVID-19 pandemic

The recommendations below outline the principal actions that may be undertaken to strengthen preparedness for future crises, reduce the adverse impact of such crises by improving access to education and training, and raise relevance of TVET during the recovery stage.

► Increase crisis-response readiness

- i. Invest in the development of adequate crisis-response plans for the education sector, from the national down to the provider level.
- ii. Develop and reinforce capacities of TVET teachers and learners, and of the managers of TVET institutions to adjust to constantly evolving circumstances, whether those of the COVID-19 pandemic or any future crisis.

► Enhance access to education and training

- iii. Improve internet infrastructure and ensure affordable connectivity.
- iv. Invest in developing and maintaining easy access to distance learning platforms and learning spaces for TVET.
- v. Collaborate with private entities in the education technology sector at the national level.
- vi. Emphasize equality and inclusiveness to ensure that people have broad access to training opportunities throughout their working life.

► Deliver relevant training and skills to build back better

- vii. Adapt to the changing situation in the economy, the labour market and society at large in a timely manner and train young people and adults to meet current and future skills needs.
- viii. Mainstream successful emerging innovations in new training programmes, learning platforms and resources into the TVET system.
- ix. Strengthen systems for the validation and recognition of all forms of learning. The pandemic pushed forward the digital agenda in TVET, accelerating digital learning.
- x. Increase efforts to reskill and upskill workers, with a view to rebuilding back better and achieving full employment.

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