International Labour Office

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

United Nations Educational, Scientific and Cultural Organization

Skills development in the time of COVID-19:

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

Skills development in the time of COVID-19:

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

First published 2021

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

International Labour Office – Geneva: ILO, 2021.

ISBN 978-92-2-033116-3 (print)

ISBN 978-92-2-033117-0 (web PDF)

ILO Cataloguing in Publication Data

Produced by the Publications Production Unit (PRODOC) of the ILO.
Graphic and typographic design, printing, electronic publishing and distribution.

The ILO endeavours to use paper sourced from forests managed
in an environmentally sustainable and socially responsible manner.
Code: CMD-REP

▶ 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 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.

Sangheon Lee

Director
Employment Policy Department
ILO

Jaime Saavedra

Global Director
Education Global Practice

and

Michal Rutkowski

Global Director
Social Protection and Jobs
Global Practice
World Bank

Borhene Chakroun

Director
Policies and Lifelong Learning Systems Division
UNESCO

▶ Acknowledgments

The present interagency report is the outcome of a collective effort by the International Labour Office (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank. It is published under the overall guidance of Sangheon Lee, Director of the ILO Employment Policy Department, Borhene Chakroun, Director of the UNESCO Policies and Lifelong Learning Systems Division, Jaime Saavedra, Global Director of the World Bank Education Global Practice, and Michal Rutkowski, Global Director of the World Bank Social Protection and Jobs Global Practice. The report benefited from support provided by Srinivas B. Reddy, Chief of the ILO Skills and Employability Branch, Employment Policy Department, Hervé Huot-Marchand, Chief of the UNESCO Section for Youth, Literacy and Skills Development, Omar Arias, Manager of the World Bank Global Engagement and Knowledge, Education Global Practice, and Ian Walker, Manager of the World Bank Jobs Group. Work was led by Olga Strietska-Ilina, Senior Skills and Employability Specialist (ILO) and coordinated by Hae-Kyeung Chun, Junior Professional Officer (ILO).

The report is based on the results of the interagency survey on technical and vocational education and training (TVET) during the coronavirus disease (COVID-19) pandemic, which was conducted online between 3 April and 15 May 2020. The survey targeted providers of initial and continuing technical and vocational education and training, policymakers and social partners from around the world. It was prepared and implemented jointly by the ILO Skills and Employability Branch, UNESCO Section for Youth, Literacy and Skills Development, and World Bank Skills Global Solutions Group. Support for dissemination of the survey and the collection of data was provided by field offices and country teams of the involved agencies as well as by other institutions, namely from the focal points of the monitoring of the Recommendation concerning Technical and Vocational Education and Training (TVET) in UNESCO Member States, the UNESCO International Centre for Technical and Vocational Education and Training (UNESCO-UNEVOC), the Secretariat of the Southeast Asian Ministers of Education Organization (SEAMEO), and the Youth Employment Funders Group. Acknowledgements are also due to the Shenzhen Polytechnic in China, which is a UNEVOC Centre, and the UNESCO Beijing Cluster Office, for providing the Chinese translation of the survey questionnaire, and to the Ulaanbaatar office of Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) for the Mongolian translation.

During the administration of the survey, preliminary findings were published on a weekly basis, thanks to the efforts of many committed colleagues involved in the planning, translation, execution and analyses of the survey, namely from the ILO: Angela Cristina Ayala, Milagros Lazo Castro, Cheryl Chan, Hae-Kyeung Chun, Paul Comyn, Pedro Moreno da Fonseca, Sylwia Golawska, Jihane Hannane, Christine Hofmann, Nguyen Thi Huyen, Fatima Idahmad, Helen Kirsch, Takaaki Kizu, Angelica Munoz Marmolejo, Ana Podjanin, Jeannette Sanchez, Karine Simonyan, Olga Strietska-Ilina, Dang Thi, Adame Traore and Bolormaa Tumurchudur-Klok; from UNESCO: Naceur Chraiti, Ramon Iriarte, Hiromichi Katayama, Anahat Kaur, Jens Liebe, Miki Nozawa, Robert Parua, Olivier Pieume, Salim Shehadeh and Libing Wang; from the World Bank: Al-Mouksit Akim, Ivette Maria Contreras Gonzalez, Renata Mayer Gukovas, Margo Hoftijzer, Victoria Levin, Indhira Santos, and Michael Weber.

The report was prepared by a joint team from the ILO, UNESCO and the World Bank. The core team of authors comprised Hae-Kyeung Chun, Paul Comyn, Pedro Moreno da Fonseca, Ana Podjanin, Olga Strietska-Ilina and Bolormaa Tumurchudur-Klok (ILO); Hiromichi Katayama and Anahat Kaur (UNESCO); and Margo Hoftijzer, Radhika Kapoor, Victoria Levin, Indhira Santos and Michael Weber (World Bank). The report benefited from helpful comments and suggestions from the following colleagues: Claire Harasty and James Howard (ILO); Samuel Asfaha (Bureau of Employers' Activities of the ILO); Rafael Peels (Bureau of Workers' Activities of the ILO); François Leclercq, Fabio Manno, Salim Shehadeh and Wesley Teter (UNESCO); and Stefanie Koettl-Brodmann and Yevgeniya Savchenko (World Bank). The report was further strengthened by fact checks on responses to some questions by the following colleagues: Álvaro Ramírez Bogantes, Julien Magnat and Alessandra Molz (ILO); Huhua Fan, Bilal Hamaydah, Ramon Iriarte, Manish Joshi, Moses Tapfumaneyi Mukabeta, Danilo Padilla, Calice Olivier Pieume and Salim Shehadeh

(UNESCO); and Amanina Binti Abdur Rahman, Dina N. Abu-Ghaida, Olatunde Adetoyese Adekola, Enrique Alasino, Mohammed Thabet M Audah, Ciro Avitabile, Nancy Rocio Banegas Raudales, Tara Beteille, Saurav Dev Bhatta, Petra Wiyakti Bodrogini, Leandro Costa, Natasha De Andrade Falcao, Neelam Ejaz, Omer Nasir Elseed, Laura Gregory, James Gresham, Nelson Gutierrez, Nalin Jena, Hamoud Abdel Wedoud Kamil, Amira Kazem, Flora Kelmendi, Nathalie Lahire, Kurt Larsen, Dilaka Lathapipat, Scherezad Latif, Xiaoyan Liang, Andre Loureiro, Miriam Montenegro, Dalal Moosa, Almedina Music, Bojana Naceva, Denis Nikolaev, Shinsaku Nomura, Isil Oral Savonitto, Suhas D. Parandekar, Rary Adria Rakotoarivony, Sanva Saephan, Marcela Ines Salvador, Marcela Lucia Silveyra de la Garza, Maya Sherpa, Tigran Shmis, Gulmira Sultanova, Venkatesh Sundararaman, Mar Mar Thwin, An Thi My Tran, Liping Xiao, Noah Yarrow, Almira Zakiyeva (World Bank). The report also benefited from valuable inputs from Anna Barbieri (European Commission) and Fernando Vargas (ILO/Cinterfor).

Last but not least, the launch of the report would not have happened without efficient administrative support from the following ILO colleagues: Rosemary Boamah, Nathalie Devaud-Dalibard, Louise Mbabazi-Kamina and Jelena Keser.

▶ Content

List of figures

List of boxes

1. Introduction

1.1 About the report and its objectives

The COVID-19 pandemic is the most significant health crisis that the world has faced in the past 100 years. It has disrupted our way of living with unprecedented consequences for our daily lives, including how we work and learn. According to estimates from the International Labour Organization (ILO), 14 per cent of working hours were lost globally in the second quarter of 2020 when compared to the last quarter of 2019 (ILO 2020a). This loss is equivalent to 480 million full-time jobs,[1] an indication of a massive disruption to labour markets around the world (ibid). 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."[2]

Furthermore, there is an important change in the work modality, as roughly one third of the world's workers live in countries where workplaces were required to close (with the exception of those for essential workers), and another 42 per cent of workers were in countries with partial workplace closures (ILO 2020a). In order to keep businesses running, a large number of workers were required, where possible, to radically adapt their everyday approach to work. Teleworking (when the nature of the job allowed) became one of the most widespread adaptations.

Major disruptions were faced in the education sector, setting back progress in the achievement of Goal 4 of the SDGs, to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". At the peak of the crisis, in late March 2020, close to 1.6 billion students worldwide were affected by school closures (World Bank 2020). Education and training institutions struggled to achieve a timely compliance with physical distancing measures in order to contain the spread of the pandemic and to switch from face-to-face training to distance learning.

In the light of the crisis, the partner agencies the ILO, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank (WB) launched an interagency survey on technical and vocational education and training (TVET) during the coronavirus disease (COVID-19) pandemic. Under normal circumstances, TVET programmes typically involve school-based training, a combination of classroom and workplace-based training, or wholly on-the-job learning. Given the severe disruption, it was of crucial importance to identify adequate, quick, practical and innovative solutions to respond to this crisis.

The aim of the survey was 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 survey collected information on policies, training measures, the challenges faced, and the resources developed. This information can help countries to address the impacts of current and future crises in their delivery of TVET, to manage the learning and training process more effectively and to ensure that quality training continues to be provided to students and trainees. 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.

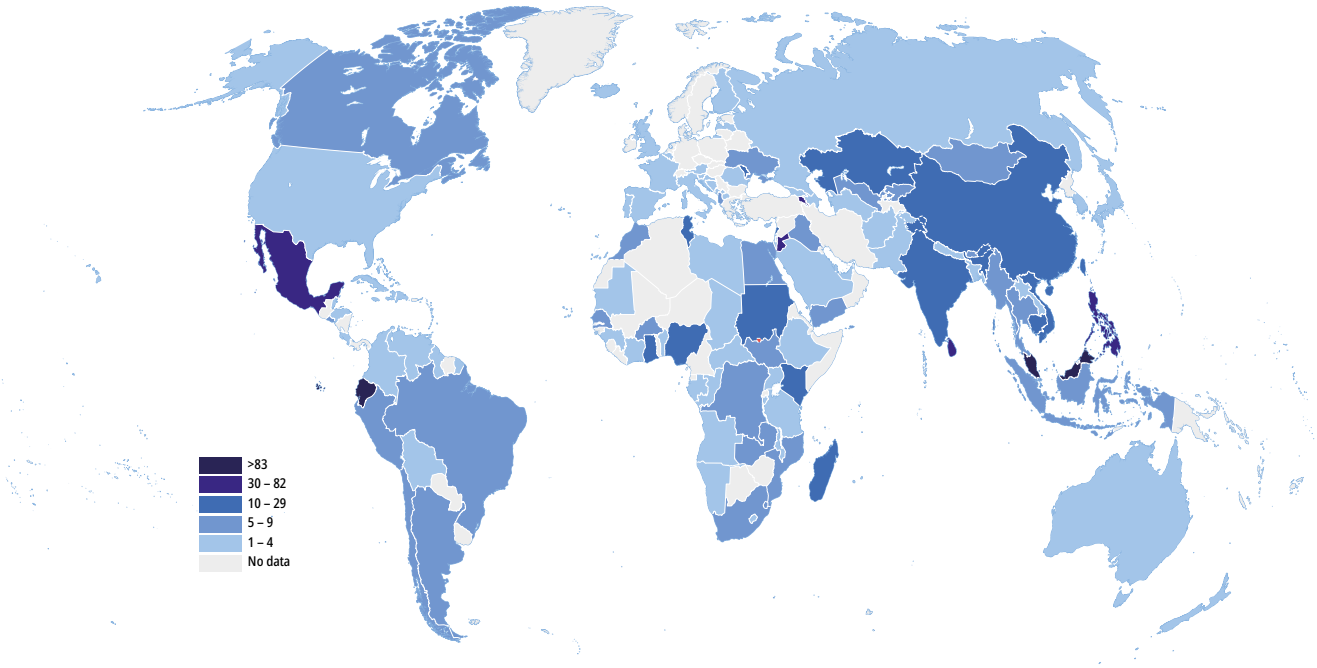
1 Full-time jobs are defined as jobs with 40 hours per week.

2 See https://sdgs.un.org/goals/goal8.

1.2 Methodology and limitations of the survey and other data sources

The joint ILO-UNESCO-World Bank survey, which was administered online from 5 April until 15 May 2020, targeted providers of initial and continuing technical and vocational education and training,[3] policymakers and social partners from around the world. During this period, the survey was promoted among networks of the three partner agencies and their respective field offices, and also over social media. To increase participation, the survey was made available in eight different languages (Arabic, Chinese, English, French, Portuguese, Russian, Spanish and Vietnamese). Unless otherwise specified, references in the present report to "the survey" relate to the ILO-UNESCO-World Bank online survey.

▶Figure 1. Geographical distribution of respondents



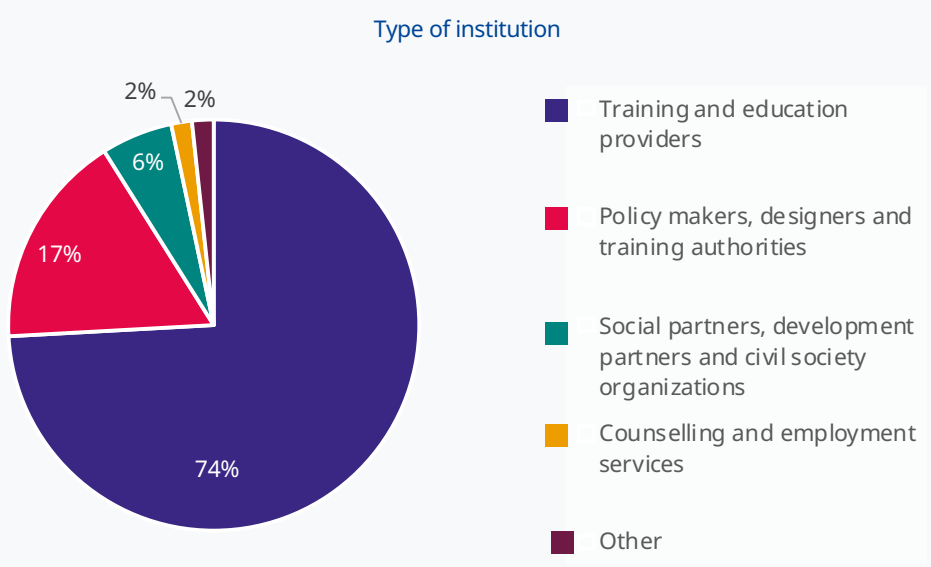
Source: ILO-UNESCO-World Bank online survey, 2020

The survey collected data from 1,353 respondents, representing 126 countries from all over the world. Figure 1 shows the geographical distribution of the respondents, indicating that, 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.

3 Respondents were asked to categorize their institution as to whether it was a provider of initial or continuing TVET. Initial TVET prepares the recipient for entry to the labour market, and generally includes formal apprenticeships. Continuing TVET comes after initial education and training and entry into the labour force, and forms part of lifelong learning.

Roughly three quarters of the respondents worldwide were representatives of technical and vocational training and education (TVET) providers, and 17 per cent were policymakers, such as representatives of ministries of education and labour, policy designers and training authorities. Other respondents included social partners, such as workers' and employers' organizations, and career counselling and employment services (figure 2).

Figure 2. Survey respondents' institutional affiliation



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

Note: Based on 1,353 responses (out of 1,353); Categories: training and education providers (initial and continuing TVET providers, tertiary education providers); social partners, development partners and civil society organizations (develop ment partners and civil society organizations, employers' organizations, workers' organizations); policymakers, designers and training authorities (ministries of education or TVET, ministries of labour, national and regional training authorities, other government ministries and bodies).

While the main source of the present report is the ILO-UNESCO-World Bank online survey, wherever suitable and possible, findings from other surveys and analyses were used to complement and enrich the survey findings (box 1).[4]

4 Other surveys and reports are referenced throughout the report. In all cases where there is no reference to data or findings, the results of the ILO-UNESCO-World Bank online survey were used or cited.

▶ Box 1. Examples of regional specific surveys on TVET during the COVID-19 pandemic

Similar surveys have been implemented by other agencies, including at the regional level. An important initiative was led by the European Commission among the European Union (EU) member States. The online survey was answered by 262 respondents.[5] Based on the results derived from the survey, close to one third of the respondents raised issues related to resources at the EU level, the sharing of good practices and cooperation within the EU in the context of the COVID-19 crisis and the provision of TVET, and at the same time 30 per cent of respondents said that they had faced problems in the delivery of the practical part of TVET. These results indicate that, even in industrialized countries support is badly needed to ensure the continuity of training.

The Inter-American Centre for Knowledge Development in Vocational Training (ILO/Cinterfor) office based in Montevideo, Uruguay, also conducted a survey among national TVET agencies and their training networks, covering 20 countries across Latin America and the Caribbean. While the survey primarily targeted TVET providers across the region, representatives also responded from other types of institutions, including governmental ones. The results obtained present a similarity with those obtained through the ILO-UNESCO-World Bank survey. Namely, the vast majority of respondents also indicated a total closure of educational and training institutions. It looks, however, as though training institutions across the region had already moved to distance learning, at least up to a certain extent, since many of them indicated that the strategies implemented to ensure the continuity of the training provision had been drawn up before the COVID-19 pandemic.

Furthermore, the Brazilian National Service for Industrial Training (SENAI), in cooperation with the African Development Bank (AfDB), conducted a survey on the impact of COVID-19 on TVET in Africa, with the participation of 23 institutions across 10 countries. The aim was to identify the effects of the pandemic on their everyday business, and to capture the key areas to be addressed.

Before presenting the results of the ILO-UNESCO-World Bank survey on TVET during COVID-19, it is important to bear in mind the limitations of the survey and the study. Given the circumstances and the need for expediency, the survey was conducted as an unrestricted online survey open to participation by anyone. No sampling was carried out, and the partner agencies relied on their networks to solicit as many responses as possible. Consequently the results of the study are not representative of the range of respondents covered and caution should be exercised in interpreting the survey findings, with analysis in this report focusing on the responses received rather than extrapolating to wider population of the countries concerned.

Moreover, given the open nature of the survey, the accuracy of individual responses could not be verified. A number of quality and fact checks were subsequently implemented, however, by the three partners' country teams in an attempt to resolve inconsistencies in answers among respondents from the same country, in particular with regard to questions aimed at capturing information on policies and measures at the national level. It is important to note that some of the identified inconsistencies were related to the rapid evolution of the situation on the ground, which meant that the response measures taken were changing quickly during and after the administration of the survey.

5 See https://ec.europa.eu/social/vocational-skills-week/fight-against-covid-19_en.

1.3 Structure of the report

This introduction is followed by chapter 2, which focuses on how TVET has been disrupted by the COVID-19 pandemic, including impacts on the provision of training and apprenticeships, and on examinations and certifications. Chapter 3 analyses the institution-level responses of TVET providers, including the transition to alternative modes of training and assessment that have emerged as a means of surmounting the constraints imposed to deal with the pandemic. It also discusses the ways in which human and financial resources are mobilized and new partnerships are established to support the continuity of TVET, looking at the measures that have been taken to address skill shortages in essential sectors due to COVID-19. Chapter 4 looks into the responses at the TVET system level, including policies and measures that countries have put in place to foster the continuity of learning and training, and explores lessons learned from the experience of TVET providers during the pandemic. The last chapter summarizes the key messages to be drawn from the survey analysis and presents a set of policy recommendations designed to ensure the recovery and preparedness of TVET in times of crisis and beyond.

2. Disruption to TVET programmes due to COVID-19

This chapter presents the findings of the survey regarding the magnitude of the disruption caused by the COVID-19 pandemic on training activities, the trends across different regions of the world, the limitations on the provision of training that were occasioned by the health crisis, and the immediate repercussions of the disruption on important aspects of training.

2.1 Effects of COVID-19 on access to and provision of TVET

The sudden closure of a large majority of TVET centres, as a result of national lockdowns announced in many countries, seriously disrupted the continuity of TVET. While distance learning alternatives were explored and exploited to a certain extent, they could not replace the quality of face-to-face classes, in particular given the exceptional emphasis of TVET on work-based learning and acquisition of practical skills. The impact of the crisis is expected to go beyond the physical lockdown period, as both households and TVET centres may find themselves in economically weaker situations than before and unable to ensure the continuity of training activities.

2.1.1 Closure of TVET centres

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.[6] 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 3).[7] 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.[8] 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.

2.1.2 Obstacles to continuity in the provision of training to TVET learners

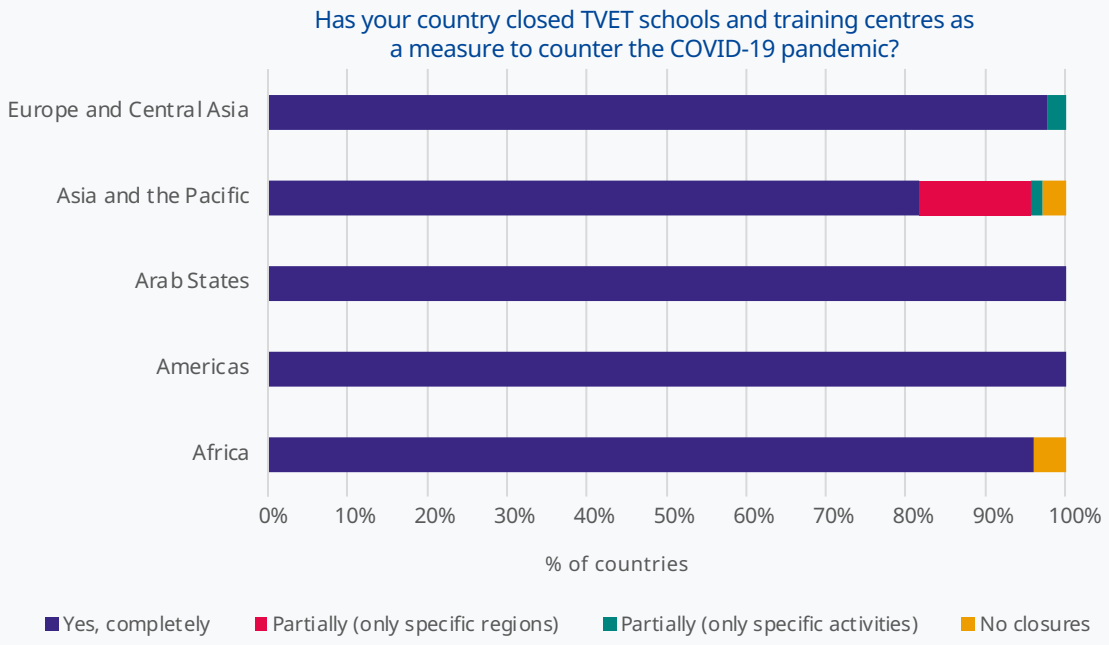
The obstacles and limitations faced by TVET systems in general appear to have been worsened by the onset of this crisis. In most countries, respondents noted a shift towards remote training measures to ensure continuity of training but at the same time, the survey results highlighted the unpreparedness of

6 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.

7 Countries reporting partial closure include Australia, Cambodia, China, Ecuador, Finland, Iceland, Indonesia, Japan, Kazakhstan, Kiribati, Malaysia, Mozambique, Philippines, the Republic of Korea, Sri Lanka, Trinidad and Tobago, Turkmenistan and Ukraine.

8 Oxford COVID-19 Government Response Tracker 2020.

▶ **Figure 3. 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.

TVET systems to face this challenge. TVET managers, trainers and learners were not adequately prepared for this abrupt transition to remote learning, given the lack of necessary skills and infrastructure to accommodate distance teaching and learning methods. The sudden shift of training modalities to distance learning and inconsistencies in access to distance learning modules have the potential to deepen inequalities among learners in terms of access to and quality of training. Many of these obstacles are described below with examples, based on the survey responses.

▶ 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.[9] 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 challenges of the crisis. The additional data usage costs incurred for distance learning were also mostly borne by the students and teachers.

9 As noted by the International Telecommunication Union (ITU) and UNESCO in their 2020 report on the state of broadband (ITU and UNESCO 2020), disparities in access to and the adoption of information and communications technology (ICT) remain both between and within countries. The higher the level of a country's overall human development, the greater the access to technology: while 84.1 per cent of households in countries in the "very high" Human Development Index (HDI) group have access to the internet, only 15.0 per cent of households in the "low" HDI group have such access. Digital inequalities have been widening within individual countries based on age, education levels and income.

In many countries, access to the internet was a challenge for many learners. This was reported by TVET providers and other respondents from many low-income countries such as Afghanistan, Bangladesh, the Central African Republic, Chad and the Democratic Republic of the Congo, but also in middle-income and high-income countries. In Albania, Colombia and Costa Rica respondents reported a lack of access to the internet and to technological devices. In the Philippines, according to TVET providers, online courses were initially offered in the context of the COVID-19 pandemic but, owing to infrastructure challenges (access to internet and digital devices), the provision of online courses was discontinued. Access to technological devices is not only a challenge in developing countries. Even in high-income countries like Spain, TVET providers reported that many learners do not have access to the equipment required to complete tasks related to their training and educational programme (Wi-Fi, tablet, computer, and so on) and to support online learning.

The digital divide between urban and rural areas was highlighted as another serious challenge in many countries. In countries such as Côte d'Ivoire, Sri Lanka, and Trinidad and Tobago where the government provided remote training via online platforms or television, TVET providers and other respondents reported that learners living in remote areas were unable to benefit from these measures given the lack of connectivity or absence of devices like computers and TV sets. Respondents from Finland, France, Spain and the United Kingdom of Great Britain and Northern Ireland reported differences between learners from different regions, particularly between rural and urban areas in terms of access to the internet and digital equipment. In Ecuador, TVET providers reported that the problem of the lack of internet access and low connection quality was worse in rural areas than in urban areas. In some rural areas of Malaysia, according to the representative of a national training authority, power supply depends on an electric generator and electricity is available for only a few hours per day. The digital divide between rural and urban areas is expected to have exacerbated inequalities 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 and the quality of pedagogical resources to support remote instruction are generally lacking in vocational education and training systems, especially when they need to be deployed on a national scale. This may be attributed to the fact that, as these platforms are not fully integrated in regular programming, their quality and capacity is not adequately monitored, hindering a smooth transition to a mainly remote mode of learning.

The lack of appropriate platforms and tools deprives students and teachers of an effective common space to learn and work and may lead to a less effective learning experience. A TVET provider from Costa Rica reported some resistance to the sudden change in teaching methods, as TVET trainees and trainers were not used to distance learning modalities. Respondents such as TVET providers and the representative of a training authority from Australia reported that teachers found it challenging to use platforms like Zoom and Skype to communicate with learners. In Armenia, TVET providers reported that it was hard to adopt new technologies and move learning to a virtual environment. In the United Kingdom, the representative of a training authority noted a cultural reluctance to embrace online learning in the field of TVET. TVET providers from other countries, such as Bangladesh and Brunei Darussalam, reported similar challenges.

▶ 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. The crisis has thrown light upon the inadequacy of investment in those aspects of teacher training that involve improving the ability to

operate online learning platforms efficiently and to develop pedagogical resources for use in entirely remote training and learning.

▶ **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. TVET providers from Chad and the Democratic Republic of the Congo highlighted the diminished financial viability of training centres owing to the loss of clients and parents' inability to pay fees. The inability of parents to pay fees is likely to lead to young people dropping out of TVET programmes and 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.

2.2 Disruption in the delivery of apprenticeships and other practical skills training

TVET faces a particular challenge in ensuring the continuity of practical skills training measures during the COVID-19 crisis. In most TVET programmes, practical training is a critical dimension and one that is not easily deliverable through remote modalities for many occupations. 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 delivery of work-based learning, including apprenticeships, has faced serious disruption from the lockdowns imposed on enterprises. In many countries the COVID-19 crisis led to the closure of enterprises. Based on results derived from the Global Survey on the impact of COVID-19 on the training of employees, apprentices and interns in enterprises, over three fourths of the respondents representing enterprises reported either a partial or a total closure of their premises (ILO forthcoming). While this led many countries to enter an economic slowdown, it also resulted in the suspension of practical training activities in the form of apprenticeships and work-based learning.

The ILO-UNESCO-World Bank survey respondents overwhelmingly reported the disruption of work-based learning due to the closure of enterprises across all regions of the world. Affirmative responses to this question ranged between 95 and 100 per cent of respondents across regions. 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 in restricted numbers with the addition of strict health and safety measures.

Practical modules were suspended, while in some countries work placements were cancelled, rescheduled or postponed.[10] A TVET provider from Australia reported the lack of any coordinated response to the challenge of incorporating work-based learning in distance learning at the time of the survey, a reality that is likely to be faced by many other countries. The sudden onset of the crisis gave little time to develop contingency measures to ensure the continuity of work-based training. TVET providers, representatives of ministries of education and other respondents from countries in various parts of the world such as Bosnia and Herzegovina, Italy, Uganda and Ukraine reported the complete suspension of work-based learning activities with no clear plan for restarting activities, while the learners had only covered a portion of the planned programme. Respondents from the

10 According to the survey respondents from Brazil, the Democratic Republic of the Congo, Myanmar and Saudi Arabia.

Congo (TVET providers) and Côte d'Ivoire (Ministry of Education) reported that the disruption has severely delayed practical training modules and their assessment. In the Democratic Republic of the Congo, respondents (TVET providers and the representative of an employer's organization) reported that they were waiting for the resumption of business activities in order to continue training.

▶Box 2. Examples of continuity of practical training despite disruption

- In Armenia, a TVET provider reported that some workplaces remained open, and apprentices could go to their workplace on a part-time basis, or meet their professors to get tasks and continue coursework.
- In Australia, a TVET provider reported that some types of training were provided face-to-face while maintaining social distancing, a trend reflected by the country's lower stringency index than the average across the broader region during April and May 2020. Many workplaces employing apprentices continued to operate (e.g. construction, factories, hairdressers, and certain shops)
- In Austria, according to the Austrian Federal Ministry for Education, Science and Research, there were reports of dual system apprentices who continued to work as before in those companies not affected by the lockdown. Based on the day-by-day values of the stringency index over the survey period, Austria's measures were consistently less restrictive than the average across its region.
- In Finland, according to an official from the Ministry of Education and Culture, work-based learning and other forms of practical training organized outside the educational institution continued, in cases where the workplace or other training place were allowed to do so and where the education provider and employer deemed the working environment safe. Learning reportedly continued for a vast majority of TVET students due to a modular qualification structure wherein learning was flexibly arranged in less affected areas. These more flexible arrangements are in line with overall softer measures, reflected by a stringency index below the European average over the survey period.
- In Lithuania, the representative of a training authority reported that, although practical training and placement in companies was suspended, respondents reported that, if learners express such a wish, vocational education and training schools are obliged to offer them practical training seminars for the coming two years. If apprentices' companies did not close, apprentices continued working.
- In Mongolia, a TVET provider reported that for a significant proportion of trainees there is a plan to recover lost hours of practical training through internships and increased hours of classroom training activities.
- In New Zealand, the Ministry of Education reported that some on-the-job training resumed within a short time. Limited campus-based teaching was carried out in cases where online teaching was not feasible (e.g. laboratory and workshop classes) and for groups of no more than 10 people.
- In Portugal, representative of counselling and employment services mentioned that practical training reportedly continued if the training entity had not been shut down, and if all parties involved (trainee, teacher, training service) were in agreement.

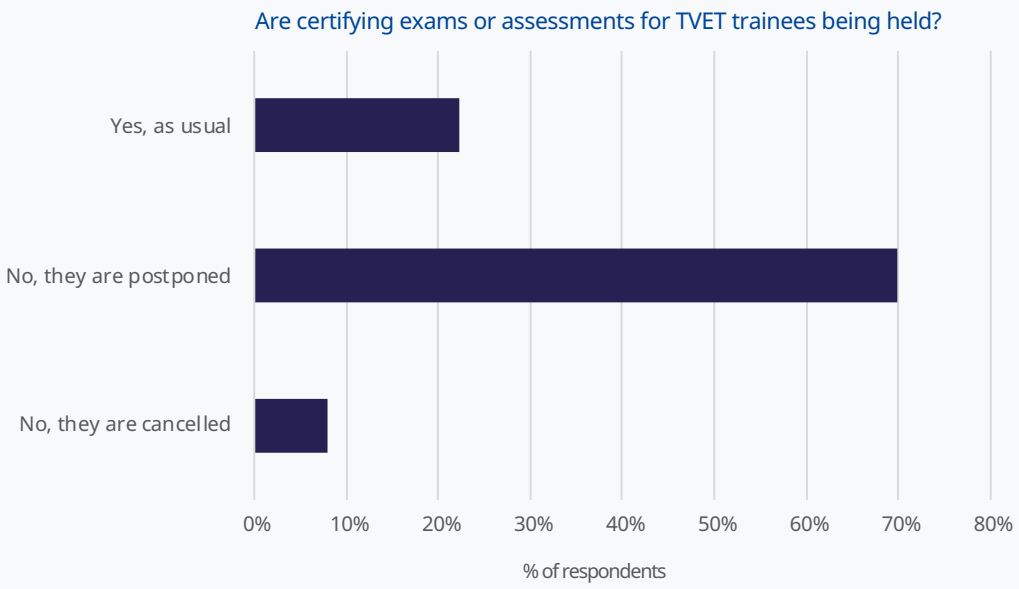
No other crisis ever before has affected apprenticeship programmes to this extent. A TVET provider from Nigeria reported that class sizes were drastically reduced and communication with students was significantly affected. In Burundi, a TVET provider reported that, even though training centres remained open, the closure of borders due to the pandemic affected access to the materials required for practical

training purposes. In Chile, a TVET provider reported that, while e-learning had been introduced to replace work-based learning components, this mode excluded low-skilled and more vulnerable workers who did not have a computer or internet connection. As noted earlier, distance and online learning does not easily incorporate the development of practical skills for many occupations and 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. Nevertheless, despite the reported disruption of practical training caused by the closure of enterprises, some countries reported that practical training had continued (see box 2).

2.3 Disruption in assessment and certification

The health crisis and the resulting lockdown also led to the disruption of assessments and certifying exams, according to survey responses from most countries. A large majority of respondents (approximately 78 per cent, as shown in figure 4) indicated that certifying exams and assessments were postponed for TVET trainees and students and in some cases even cancelled. Some Asian countries were exceptions to this trend, such as Bhutan, Cambodia, Indonesia, Malaysia, Philippines, Thailand and Viet Nam. In other countries where complete closures were reported – Argentina, Armenia, Iceland, India, Jordan, Kazakhstan, Lebanon, Mexico, Mongolia, Montenegro, Morocco, North Macedonia, Republic of Moldova, Russian Federation, Saudi Arabia, United Arab Emirates and Zambia – respondents reported that assessments continued to be conducted, although it is not clear how this was done.

▶ Figure 4. Continuity of TVET exams and assessments



Note: based on 1,351 (out of 1,353 responses), raw percentages (unweighted).

In the majority of countries, during the period covered by the survey, respondents reported that TVET providers were not assessing learning outcomes related to practical skills developed in workshops or laboratories, or through work-based learning and apprenticeships. In addition to the inherent difficulty of assessing practical skills, the conduct of assessments that require physical presence in classrooms

presented a challenge in itself, given the school closures and stringent physical distancing requirements imposed in most countries.

In China, for example, where participation in distance learning in general education has been strong, some respondents, including a TVET provider and the representative of a training authority, reported that the inability to conduct practical courses online had an impact on the assessment and certification processes, and thus the graduation of the trainees. In Eswatini, Indonesia, Malaysia and Saint Lucia, TVET providers and other representatives of educational institutions also reported challenges in monitoring learning outcomes, as it was especially difficult to adapt external exams to online administration. In Guyana, the assessment of programmes with significant practical modules would reportedly be extended as they require face-to-face assessments. These delays were expected to seriously affect the time frame for the completion of training and for entry into the workforce.

While in most cases the focus has been on the continuity of theoretical coursework, there are some examples of ways in which different assessment practices were carried out virtually. It is not clear, however, whether assessments were carried out virtually as standard practice or if they were developed as an exceptional one-time mitigation measure, given the challenge of conducting remote assessments in vocational education and training. Further explanations and examples of alternative solutions deployed for assessing practical skills will be provided in chapter 3.

2.4 Consequences of COVID-19 on learning and teaching in TVET

Many teachers and trainers were not adequately prepared to adapt to alternative modalities of teaching, keeping students engaged and motivated in distance learning, and managing classes remotely. In some cases, teachers were not properly equipped with the necessary technology and internet access, and reorienting their training strategies in a short period of time created a great deal of stress, pressure and anxiety, undermining working conditions of the teaching staff. For some teachers, balancing professional and personal responsibilities, such as their own caregiving duties, was challenging and, in some countries and regions, continued in-person training brought concerns regarding their safety and health (ILO, 2020f). Given the important role of teachers and trainers for ensuring an optimal learning environment, these challenges, if unaddressed, may severely affect quality of education and training.

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 lack of preparedness can exacerbate the challenges already inherent in those systems. The crisis has shone light on the lack of adequate technological infrastructure, digital skills and pedagogical resources, and the negative consequences that this can have in the short and longer term, in particular for the most disadvantaged population groups.

A number of factors can lead to serious longer-term consequences caused by the disruption of TVET programmes and erase the progress that has been made in improving access to and quality of TVET programmes over the last few years in line with the International Education Agenda. The disruptive consequences of the COVID-19 pandemic may result in a drop in 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.

The anticipated consequences identified from the survey results are described below.

- **Difficulty with TVET student engagement and quality assurance in the remote learning format:** The representative of a local education authority from Australia reported that, while remote learning has commenced for many students, it has proved difficult to maintain student engagement. TVET providers 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 by the increase in more passive methods of engaging with content, such as reading, videoconferencing, watching demonstrations and videos and so on. TVET providers from China noted that distance learning, both online and offline, affected students' motivation and engagement. Although most courses continued, it took time for teachers and students to adapt to the new online learning methods. A representative of the Finnish Ministry of Education and Culture reported that, according to a survey conducted by Finnish TVET student associations (Sakki and OSKU), which focused on TVET and students' experiences in distance learning, half of the students reported that, for them, learning had become more burdensome during the closure.

  As noted earlier, practical training suffered greatly in most countries, leading to cancellation or postponement until such time as the situation could improve. TVET providers from Iceland, India, Lesotho and Malaysia and many other countries reported that distance learning was mostly focusing on theoretical classes. While this seems to be a logical short-term crisis response, it may not be adequate in the event of prolonged lockdowns. Some of the concerns raised relate to the possibility that the practical skills acquired in class since the beginning of the school year might be partially forgotten and that trainers would therefore need to conduct revision classes while still being under pressure to complete the curriculum.

- **Drop in access to and affordability of TVET programmes during the crisis:** In Canada, for some students, delays in the completion of studies may reportedly result in the need to apply for an extension of their study permit and require additional fees, thus creating further incentives to drop out. Given that TVET students in many countries tend to come from more disadvantaged backgrounds than students in general education (Arias et al. 2019), this may have serious consequences for TVET learners whose parents cannot afford to pay tuition fees, or lack access to the internet and the necessary devices to use distance learning modalities. In such circumstances, disadvantaged students risk falling too far behind. An initial TVET provider reported that, since the winter semester ended in March, before the onset of the pandemic, most of the vocational learning outcomes had been met. The Ministry responsible for technical colleges has lowered completion requirements to 80 per cent; some skills will not be assessed, or assessment will be deferred.

- **Increased opportunity cost of completing TVET programmes during the crisis:** TVET providers and other respondents from Ecuador, Jordan, Lebanon, Tunisia and Zimbabwe reported that uncertainty regarding the end of the current school year and entry into the labour market has been a cause of anxiety and confusion among students, affecting their willingness to continue learning. In Nigeria, a TVET provider indicated that delays in the acquisition of hands-on practical experience due to the closure of businesses, which, in turn, has interrupted the learning process has also been a factor in demotivating students.

- **Increased risk of learner dropouts from TVET programmes:** Respondents expressed concern that lack of physical access to the place of training could lead to increasing demotivation among students and contribute to an increase in the drop-out rate within TVET programmes. If the pandemic continues, the quality of distance learning modalities needs to be ensured by addressing the attendant infrastructural constraints. Limited internet access and a lack of learning devices among poor students are impediments to the continuity of

training in the current scenario at least. In addition, the economic slowdown of countries has led to a widespread wave of unemployment in many countries. As a result, the parents of many trainees are finding it difficult to pay tuition fees, which is likely to affect the continuity of training.

- **Lack of motivation of teachers and managers:** Reports indicate that the sudden disruption of face-to-face training and the challenge of transitioning to distance learning modalities have led to a heavier workload for teachers. With the sudden need to adapt to new teaching methodologies and to ensure communication with students through digital means or platforms, and the increased messages and questions from students at all hours, the transition has reportedly not been easy. In addition, according to some respondents, the costs related to increased use of data was often at the personal expense of teachers, which also acted as a deterrent to their sustained engagement and the support that they provide to learners. In Lebanon, an initial TVET provider indicated that trainers and learners were demotivated because of the delay in starting the programme (courses did not start until 7 May 2020). In Malaysia, a continuing TVET provider reported that trainers and learners were becoming demotivated by having to stay at home and being unable to continue with the teaching and learning process because, first, hands-on skills-based training cannot be effectively delivered through online learning; and, second, students from low-income backgrounds do not have access to digital gadgets such as laptops and smartphones for e-learning.

Despite the challenges and the negative consequences of the COVID-19 crisis highlighted in this chapter, it must be noted that, in some cases, the crisis has simply accelerated the transition which was already under way towards the digitalization of training centres and programmes while highlighting the importance of developing digital skills within the TVET ecosystem, with a special focus on trainers and learners. In many countries, efforts have been made to strengthen learning platforms and make remote learning a possibility, while simultaneously fixing system-wide bottlenecks. These efforts and their results will be further explored in the following chapters of this report.


E
6

3. TVET Institutional Responses to COVID-19

This chapter presents the findings of the ILO-UNESCO-World Bank online survey relating to the responses of TVET providers to the COVID-19 crisis. This includes an examination of the transition by TVET providers to alternative modes of training and assessment, along with the mobilization of human and financial resources for distance learning. The analysis of the changes in modes of training and assessment, and of resource mobilization, focuses only on the responses of providers of initial and continuing TVET. The chapter also explores innovative solutions that have been found with the support of public and private partnerships, and measures that have been put in place to address skill shortages in essential sectors occasioned by the COVID-19 crisis.

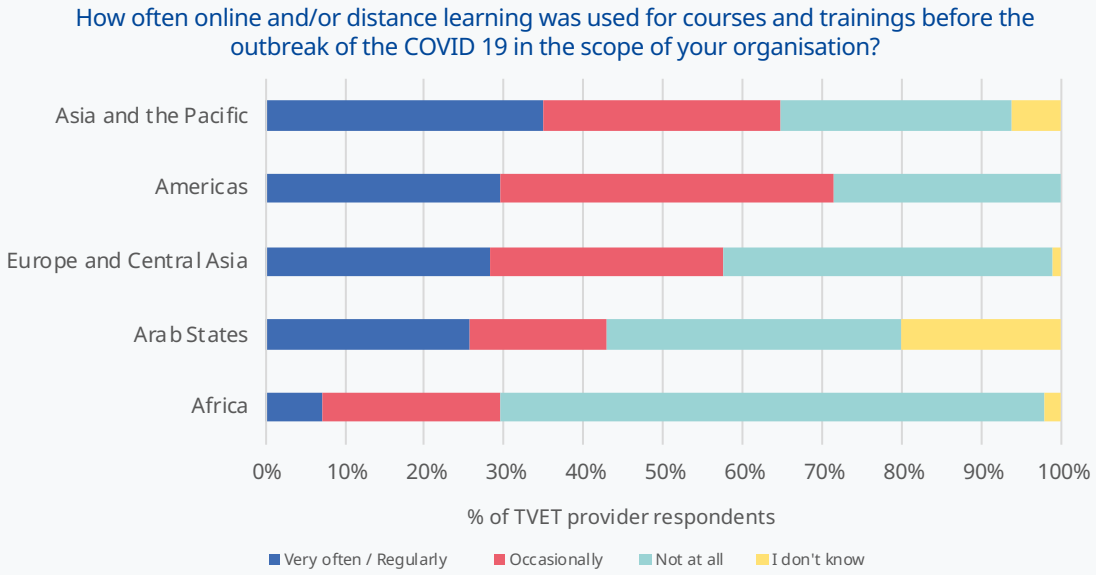
3.1 Transition to alternative modes of training and assessment[11]

The unprecedented global health crisis has brought a sudden shift away from the classrooms to alternative modes of learning, training and assessment in many educational institutions, including among TVET providers. While distance learning options have been made available by many training providers, they were not widely adopted in the delivery of TVET before the outbreak of the COVID-19 pandemic. This is confirmed by the survey results: more than one third of surveyed TVET providers had not used distance learning for courses or training at all before the pandemic; another third had used it only occasionally. Around 18 per cent used it regularly and a mere 12 per cent used it very often. From a country-level standpoint, in only 13 out of 92 countries did the majority of TVET providers responding to the survey report using distance learning very often or regularly prior to the COVID-19 outbreak.[12] The proportion of respondents who reported that TVET providers had not used distance learning at all before COVID-19 was particularly high in Africa, in comparison to other regions (figure 5).

11 The answers sampled in sections 3.1 and 3.2 are restricted to those from initial and continuing TVET provider organizations, in order to ensure a more precise analysis of the changes in training delivery modes before and after the outbreak of COVID-19.

12 Countries are considered to use distance learning if more than 50 per cent of respondents representing TVET providers reported that they often or regularly used online or distance learning before the outbreak of the COVID-19 pandemic. This calculation must be interpreted with caution, however, as one third of all countries have only one TVET provider respondent.

Figure 5. Use of online or other forms of distance learning by TVET providers before the outbreak by region



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

Note: Based on 985 responses from initial and continuing TVET providers (out of a sub-sample of 985 comprising TVET providers only). Europe and Central Asia (99 respondents); Americas (207 respondents); Arab States (70 respondents); Asia and the Pacific (511 respondents); Africa (98 respondents).

3.1.1 Transition to distance learning

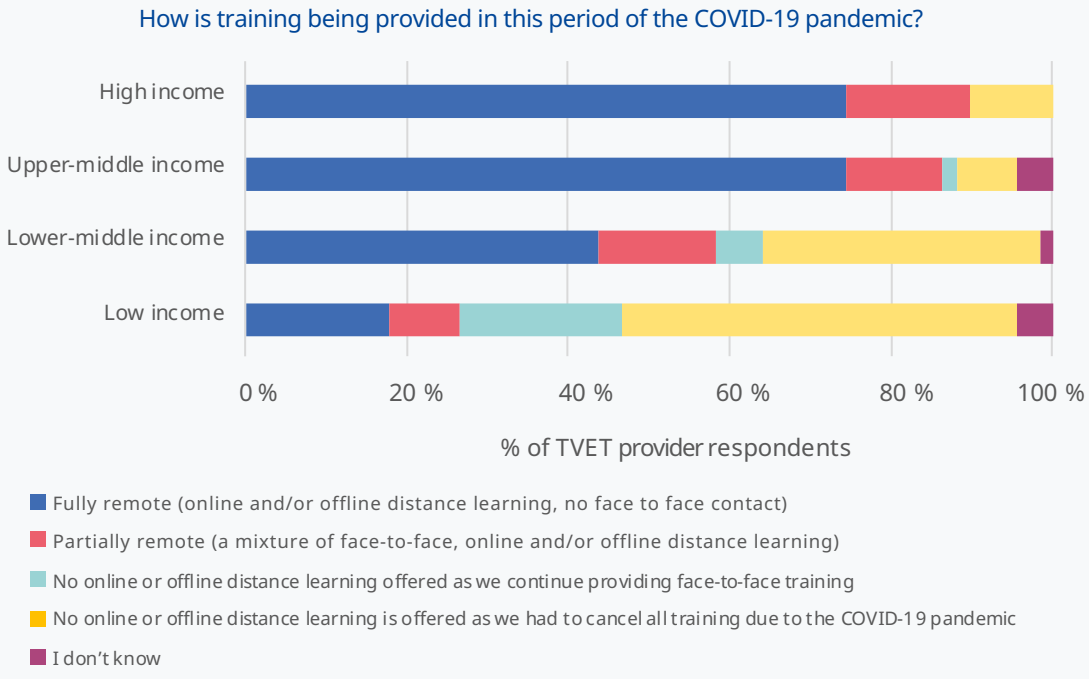
The majority of TVET providers from 35 of 92 countries reported not using distance learning at all prior to the crisis. There could be a number of reasons to explain the infrequent use of distance learning in TVET prior to the crisis, but it is usually attributed to the emphasis placed by TVET on the provision of training in practical skills, which is generally offered through practical exercises in laboratories and workshops or through apprenticeship training and other forms of work-based learning. Although virtual practical training using simulators and virtual or augmented reality software proved possible in some contexts, the nature of practical skills acquisition has been and continues to be a challenging aspect for the transition to remote learning in TVET.

Yet, despite those challenges, the findings of the ILO-UNESCO-World Bank survey show that, since the COVID-19 outbreak, the uptake of distance learning approaches in TVET has accelerated, much as it has in general education schools and universities. 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.[13] 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.

13 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.

While the crisis has triggered a rapid transition to distance education and training in the delivery of TVET, it has also revealed the wide learning gap between certain countries and societies: 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 6).[14] Based on the sub-sample comprising TVET providers only, 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.[15] 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. While a majority of learners in countries that have been well equipped to switch to distance learning can continue their learning journey, those in countries that do not have the resources or infrastructure to support the uptake of distance learning approaches are at risk of being left behind.

Figure 6. How training is provided by countries' income level



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

Note: Respondents from initial and continuing TVET providers represent 92 countries (985 responses out of a sub-sample of 985 comprising TVET providers only) – high-income (39 responses); upper-middle-income (709 responses); lower-middle-income (192 responses); low-income countries (45 responses); raw percentages (unweighted).

14 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.

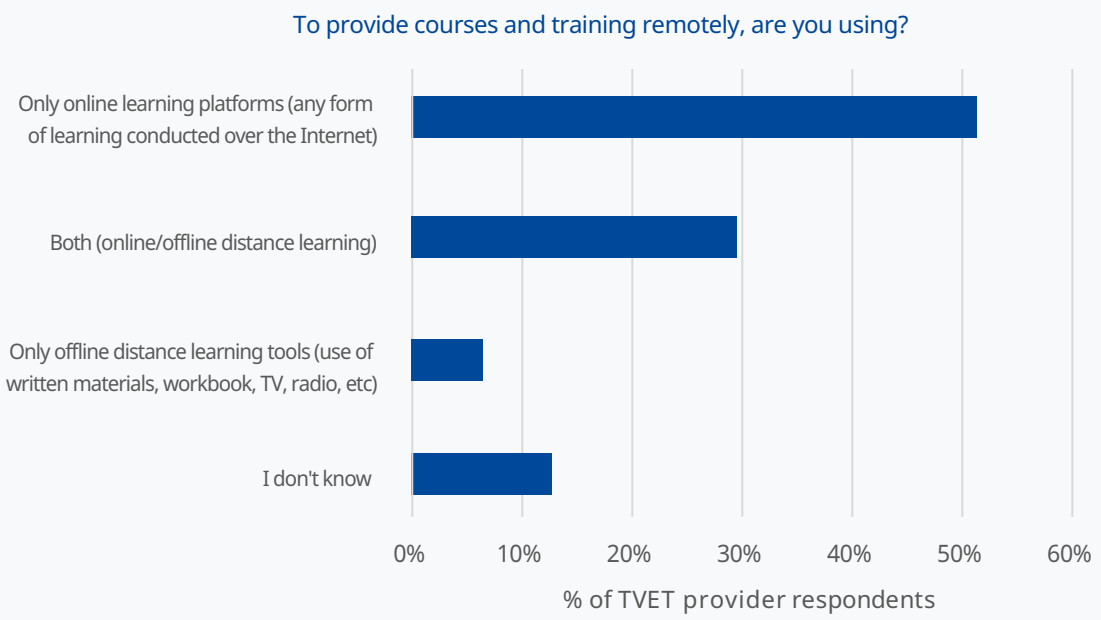
15 See footnote 13 above.

3.1.2 Distance learning modalities

The remote learning modalities used by TVET providers can exacerbate or mitigate access issues within countries during the COVID-19 pandemic. 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 (figure 7). Around 6 per cent reported the use of only offline distance learning tools such as paper-based materials, television and radio.

Given the access issues related to online remote learning modalities even in middle-income and higher-income contexts (see chapter 2), 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. In addition, 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. A wide range of policies and measures, which could support more equitable access to continued learning in times of crisis, will be further discussed in the next chapter.

Figure 7. Distance learning use by TVET providers



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

Note: 984 responses (out of a sub-sample of 985 comprising TVET providers only), representing initial and continuing TVET providers; raw percentages (unweighted).

3.1.3 Alternative approaches to practical skills training and assessment

Alternative approaches were also introduced to provide practical skills training and conduct assessments throughout the crisis. As discussed earlier, in most cases focus was placed on continuity of theoretical coursework, and the majority of respondents reported that they were not providing or assessing practical skills training at the time of the survey. Nevertheless, it was noted that, while the challenges largely remained

in place, efforts were being made by TVET providers to ensure the continued delivery of practical skills training, and also of assessment during the crisis. For example, in countries where face-to-face training and assessment are possible, they still provided apprenticeships and practical training and conducted assessments in person, but using precautionary measures such as physical distancing, wearing a face mask 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 conduct the practical aspects of training. For instance, many respondents reported the use of existing online platforms such as massive online open courses (MOOCs) and the Modular-Object-Oriented Dynamic Learning Environment (MOODLE), video tutorials, live video conferences and simulators where possible. 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. Numerous resources and tools used by respondents for the shift to distance learning, mostly online, are listed at the end of this report (see annex II).

Where practical knowledge and skills assessment are concerned, alternative methods were also reportedly implemented, often through virtual platforms. For example, in Ecuador (TVET providers) and Finland (Ministry of Education and Culture), 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. Respondents from Chile (TVET providers) indicated that they were planning the same measures with the addition of, where possible, the use of digital simulators. Respondents from New Zealand (Ministry of Education) and Trinidad and Tobago (TVET provider) reported that practical skills were being assessed on the basis of portfolios of past work compiled by learners and submitted online. The representative of a national training authority from the United Arab Emirates reported that remote assessment through videos, photographs, portfolios and simulations was complemented by additional professional discussions between learners and assessors.

In Egypt, according to the Ministry of Education and Technical Education, some respondents reported that assessments were expected to be completed in two ways. For graduating students, assessments and exams were to be conducted at college workshops and laboratories under very strict conditions and with the observance of physical distancing. For transitioning students, centres were to reopen three weeks earlier than usual the following year. It is heartening to note that many TVET providers are showing the ability to adapt promptly and make a swift shift to alternative modes of training and assessment to ensure continuity of learning and training in times of crisis. Some more examples of alternative solutions deployed for the assessment of practical skills are provided below (box 3).

▶Box 3. Examples of continuity of practical training despite disruption

In the British Virgin Islands, according to the Ministry of Education, Culture, Youth Affairs, Fisheries and Agriculture, respondents reported that students were unable to take part in work-study or apprenticeships in spring 2020, but most of the grade 11 pupils were to take part in a work-study programme for one month in the summer of 2020. The only practical assessments that have been carried out via an online medium are those for the subjects Computer Applications and Technical Drawing.

In Argentina, according to TVET providers, diverse materials were provided in various digital formats, complemented with constant support provided to teachers and learners. The evaluation was strictly qualitative in almost all cases and was conducted through the analysis of cases, the collective construction of knowledge and the assembly of portfolios, among other strategies.

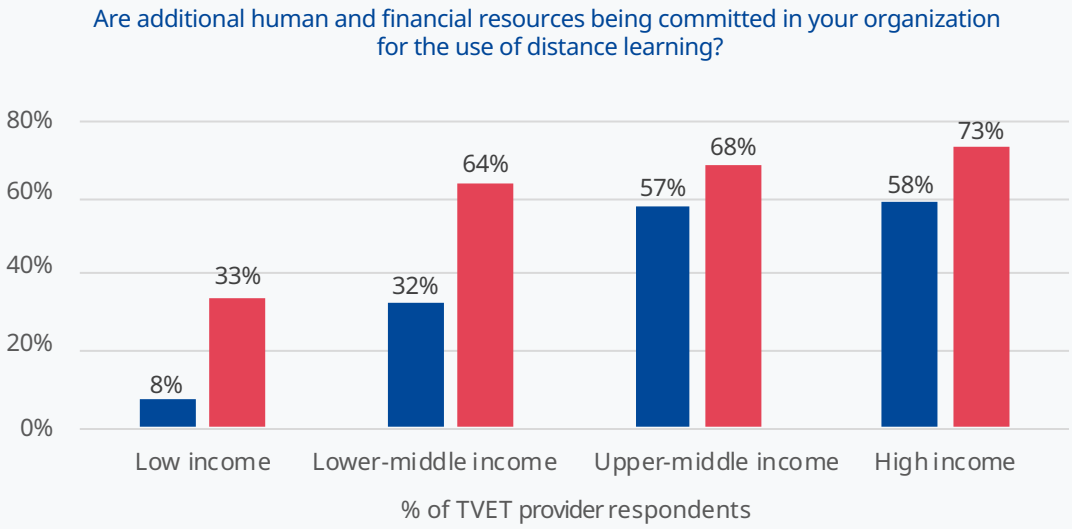
3.2 Human and financial resource mobilization for distance learning in TVET

Mobilizing human and financial resources is crucial for the development of a wide range of innovative and flexible learning solutions, not only to respond to the current pandemic but also to create long-term positive impacts in creating an equitable and effective learning environment for every citizen.

Despite its challenges, the pandemic has created an opportunity to promote and further mobilize human and financial resources for expanding distance learning at the global level. 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 half[16] 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 (figure 8). The percentage of countries where the majority of TVET provider respondents indicated commitments for additional resources to support distance learning rises with the income level. 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.

Figure 8. Additional resources committed for the use of distance learning by TVET providers



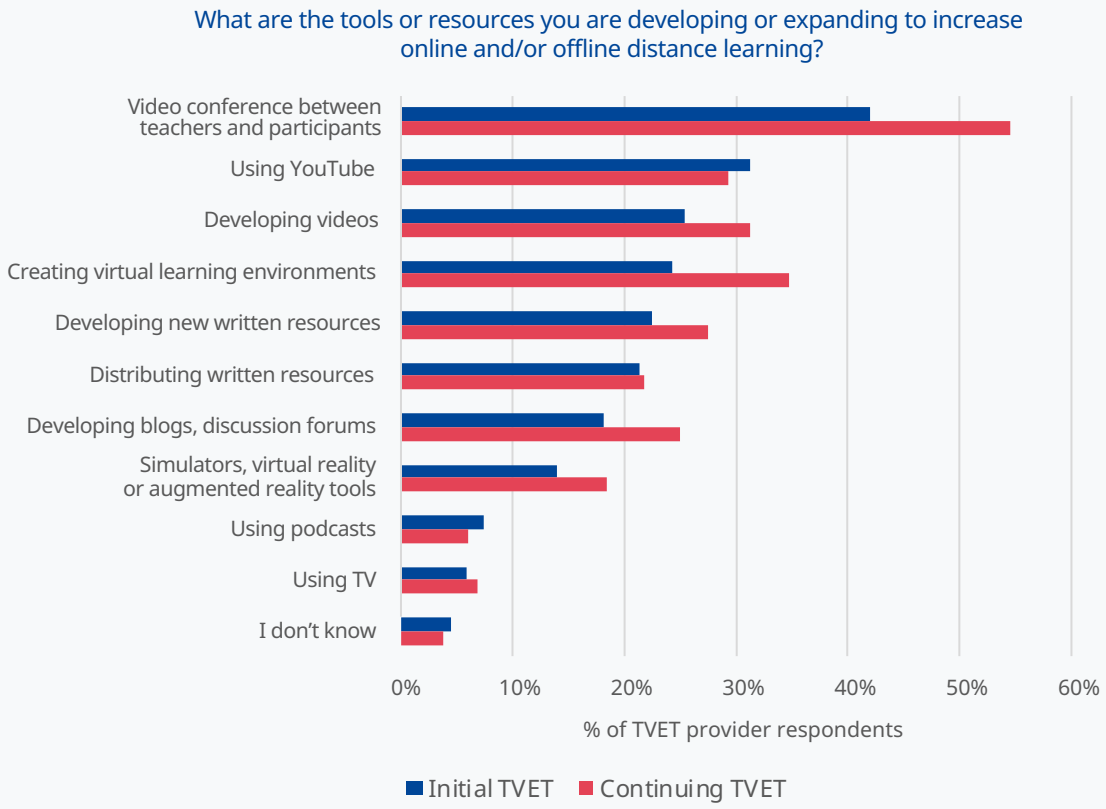
Source: ILO-UNESCO-World Bank online survey, 2020.

Note: The share of countries where the majority of respondents representing TVET providers reported that their TVET organizations had committed additional human and finance resources to ensure the continuity of distance learning. Respondents from initial TVET providers represent 71 countries (635 responses out of a sub-sample of 985 comprising TVET providers only) (low-income – 13; lower-middle-income – 25; upper-middle-income – 21; high-income – 12). Respondents from continuing TVET providers (349 responses out of a sub-sample of 985 comprising TVET providers only) represent 67 countries (low-income – 12; lower-middle-income – 25; upper-middle-income – 19; high-income – 11).

16 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.

Respondents representing TVET providers reported that the additional resources were used for developing or expanding a wide range of new tools and learning approaches to ensure continuity of distance learning. The most common of tools and approaches included video conferencing (such as Zoom), videos (including YouTube), blogs, discussion forums or platforms (such as Microsoft Teams) and virtual learning environments (such as Google Classroom). Some respondents also reported the use of simulation software such as STR, Opera and Amadeus for training, along with various 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 were also being developed or expanded and included new written resources such as self-paced learning guides and learner notes. Moreover, the respondents from continuing TVET providers were more likely to report the use of a wide variety of tools than respondents from initial TVET providers, with the exception of the reported use of YouTube and podcasts (figure 9).

Figure 9. Use of new tools and resources by initial and continuing TVET providers



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

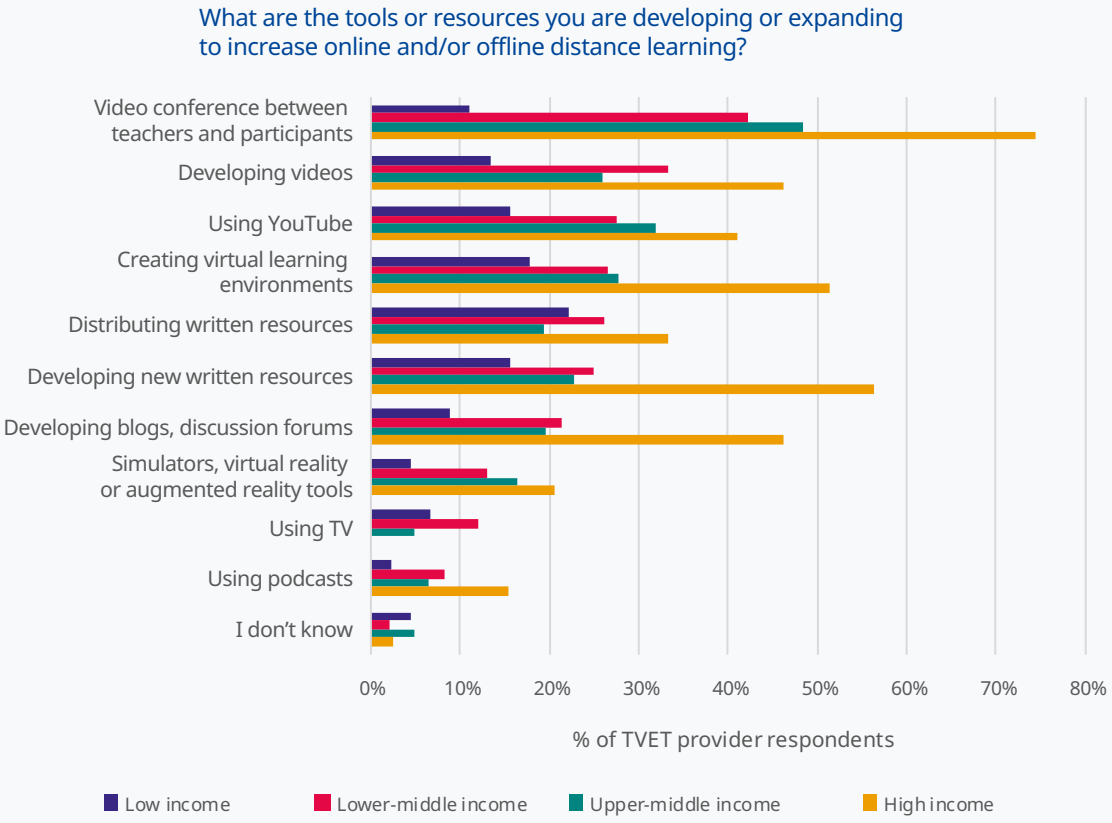
Note: The table shows the raw percentages of respondents classified as initial TVET providers (total 636 respondents) and continuing TVET providers (349 respondents) who indicated that they were making use of specific tools.

Many countries appear to have developed new platforms or mobilized existing ones. For instance, training providers in El Salvador, Ecuador, Indonesia and the Philippines invested in mobilizing platforms to train teachers and trainers to use digital tools. Training authorities and social partners across many countries, including Malaysia, Ukraine and Uzbekistan, provided examples of locally developed platforms with

distance-learning solutions provided in local languages when needed, to reach out to learners and ensure the continuity of distance learning.

The survey findings also highlight the importance of infrastructure (networks, ICT equipment and devices) and the digital skills of teachers and trainers, as they become crucial for ensuring an equitable and optimal learning environment, especially in lower-income countries and among disadvantaged populations (see chapter 2). Offline distance-learning tools such as television and written resources are more frequently reported in lower-income countries, while video conferencing tools and virtual learning platforms are apparently more widespread among high-income countries (See figure 10 below).

Figure 10. Use of new tools and resources, by income groups



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

Note: Based on the raw percentages of the respondents using a certain tool (out of the total respondents per region). The total number of responses per region: low-income (45 responses), lower-middle-income (192 responses), upper-middle-income (709 responses), high-income (39 responses).

In short, the COVID-19 crisis has become a catalyst for TVET providers worldwide (ILO, 2020e) to develop innovative learning solutions in a short period of time and it has accelerated the provision of online distance learning at an unprecedented pace and scale, thanks to digital tools and modern learning technologies. The key question is how all these new learning systems and achievements can be sustained to ensure long-term positive impacts at the system level and an equitable, flexible and effective learning environment for all.

3.3 Establishment of new partnerships

Innovative solutions have been found involving the creation of partnerships. The survey revealed numerous examples of cooperation between public, private and civil society stakeholders aimed at improving access and developing capacity in digital and distance learning.

The survey highlighted a problem faced by many low and middle-income countries, where both trainers and learners had limited access to equipment and to the internet itself, with insufficient bandwidth identified as a key constraint to effective distance learning. Those in low-income neighbourhoods and rural areas in particular were found to have experienced greater disadvantages.

In response to these constraints, 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. Such equipment included tablet devices, the free use of certain communication tools and platforms and free internet access or additional bandwidth. For example, TVET providers from Kyrgyzstan reported that the operator MegaCom provided free SIM cards to secondary education teachers for two months with complimentary internet and 60 GB of data.

While the implementation of digital learning was mostly carried out by using freely available communication platforms and apps which offered standard tools, in a number of cases, dedicated digital learning platforms were reportedly developed or overhauled, to provide better support for individual learners, teachers and enterprises, and users had to be trained to use them effectively. 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.

Cooperation was also 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. In Kiribati, experienced ICT technicians from the Kiribati Institute of Technology reportedly worked with local organizations to ensure that they had the right system configuration and tools to facilitate employee online and offline distance learning.

It should also be noted that, while the direction of most support efforts was from the government to individual TVET providers, in certain cases, cooperation initiatives appear to have reversed this relationship. According to a respondent in Thailand, at the request of the Ministry of Education, local colleges supported central administrative services through their online learning infrastructure. These examples complement other reported examples, including from China, where the ministries of education, industry and information assembled a group of diverse constituents to develop a new cloud-based, online learning and broadcasting platform and to upgrade the suite of tools and resources available on that platform (Tam and El-Azar 2020). In Latin America, according to the ILO/Cinterfor survey, national TVET agencies contracted the services of commercial online learning providers to deliver dedicated soft skills training programmes to current students (ILO/Cinterfor 2020).

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. In Northern Ireland, colleges worked with the Qualifications Regulator to develop solutions to the assessment and award of qualifications and a coordination with awarding organizations across the United Kingdom.

All over the globe, new partnerships were established to address skills and labour shortages in sectors essential to the pandemic response, and the activities of many training centres were reoriented towards manufacturing facemasks, personal protective equipment for medical workers, medical machinery and respirators. For example, in New Zealand, the sector skills bodies known as industry training organizations supported short-term training and the retraining of workers to redeploy them in support of the pandemic

response. This reorientation was made possible by the close partnerships between the industry training organizations in different sectors, which enabled quick access to the relevant industry networks.

The survey has shown that cooperative responses and partnerships have increased as a result of the crisis, with respondents expressing hope that they will continue into the future. The challenges posed by the pandemic have acted as a catalyst for a stable cooperation between complementary partners, cooperation that will be fundamental to the task of building back better.

It is also possible that a new paradigm will emerge from these partnerships, based on the central importance of the learner, a flexible, hybrid and blended approach to learning and a readiness to adapt to different learning contexts. These partnerships should also address such needs as digital training initiatives for key professionals, such as trainers and counsellors, and also for learners themselves, in order to narrow the digital skills divide.

Reinforced cooperation will help ensure lasting positive impacts. As the crisis has shown, the growth of digital learning raises the possibility of widening pre-existing social and geographic inequalities within and across countries. The reinforcement of partnerships between public administrations, learning providers, telecommunication companies, software developers and ICT hardware producers is an important step towards making universal access to digital learning a reality. The advancement of an agenda of universal entitlement to learning in the age of digital citizenship will require the reinforcement of national telecommunication infrastructure and inclusive access to the internet and digital equipment and tools in many countries.

The development of blended learning solutions, the introduction of a ludic approach to learning – the process known as "gamification" – and the application of augmented reality and virtual reality in TVET and in workplaces will require considerable investment in equipment, bandwidth, content development and the training of trainers and mentors. The available funding and financial incentives should be used to encourage collaborative work and the pooling of resources across a diversity of public and private stakeholders, to enable the emergence of this new learning environment. Such initiatives will, it is hoped, take advantage of the sorts of partnerships that have been established to date.

It is particularly important to note that small and medium-sized enterprises have proved to be particularly ill-equipped to deal with this transition and will require a level of support which would be better framed by cooperation between social partners, learning providers and national training funds. The development of strategic attitudes towards human resource development within a digitally rich context is not likely to occur spontaneously. Building the capacity of such enterprises will require a collaborative effort, which may necessitate vertical and horizontal alliances in value systems, and strong regional networking.

The crisis has also highlighted that the more advanced skills development systems proved to be more responsive and resilient. Where strong sectoral or regional skills councils existed, enterprise learning was better supported, also enabling targeted access to national funding and technical support to small and medium-sized enterprises. The further development of both digital and hybrid learning solutions will also require further investment in the development of systems for the recognition of prior learning, which can accommodate the delivery of digital learning and the award of credentials. Again this will have to be based on strong cooperation across learning providers, public administration, employers and representatives of occupational groups.

Nevertheless, the accelerated formation of public-private partnerships in TVET as a result of the pandemic is not without its challenges. While many countries are eager to support public-private partnerships for digital solutions and many companies have stepped up to provide free software and even content, in some cases this process has been so rushed that it has circumvented normal procurement processes, and there is evidence that some companies are counting on securing a greater presence in the education field after the crisis (ILO 2020f). In emerging countries where education has predominantly been provided by the government, these public-private partnerships could become a more prevalent and consequential trend for the future of education and training and, as such, appropriate measures need to be in place to ensure quality of learning

and equal access for all. Appropriate governance and regulation of ICT companies will be required. As ICT is primarily furnished by private for-profit providers, appropriate governance and regulation will be needed to ensure that the private development of ICT-based learning does not undermine public services or autonomy in determining educational content and methods, nor should it increase inequality or degrade the status of education professionals.

3.4 Measures to address skills shortages in essential sectors due to COVID-19

The COVID-19 pandemic revealed skills and labour shortages in a number of essential sectors. A shortage of staff in national health-care services, a problem which has existed in many countries over a long period, was brought into sharp focus by the pandemic. The shortage has been significant not only among doctors and nurses, but also among other health-care workers, including cleaners, hygienists, technicians, radiologists, laboratory workers, mental health support workers and call operators. With more than half of the world's population lacking access to essential health care (ILOSTAT 2020), governments, social partners and training providers reported mobilizing immediate response measures to ease the deficit.

Labour and skill shortages related to health care have also been experienced well beyond the health-care sector as such, in infection control, safety and prevention methods in public services and occupational safety and health in work places; in the manufacturing of protective kits, sanitation products and medical supplies and equipment; in diverse economic activities such as cooking for poor families, care for the elderly and people with disabilities; in emergency construction, deploying and operating treatment facilities; and in manufacturing drugs, testing kits and vaccines. In response to those perceived needs, the United Nations called in March 2020 for swift and coordinated global action to tackle the shortage of services and products caused by the COVID-19 health crisis (UN 2020). Other sectors experienced shortages of certain types of workers and related skills such as frontline retail and food workers for production, delivery services and agricultural workers.

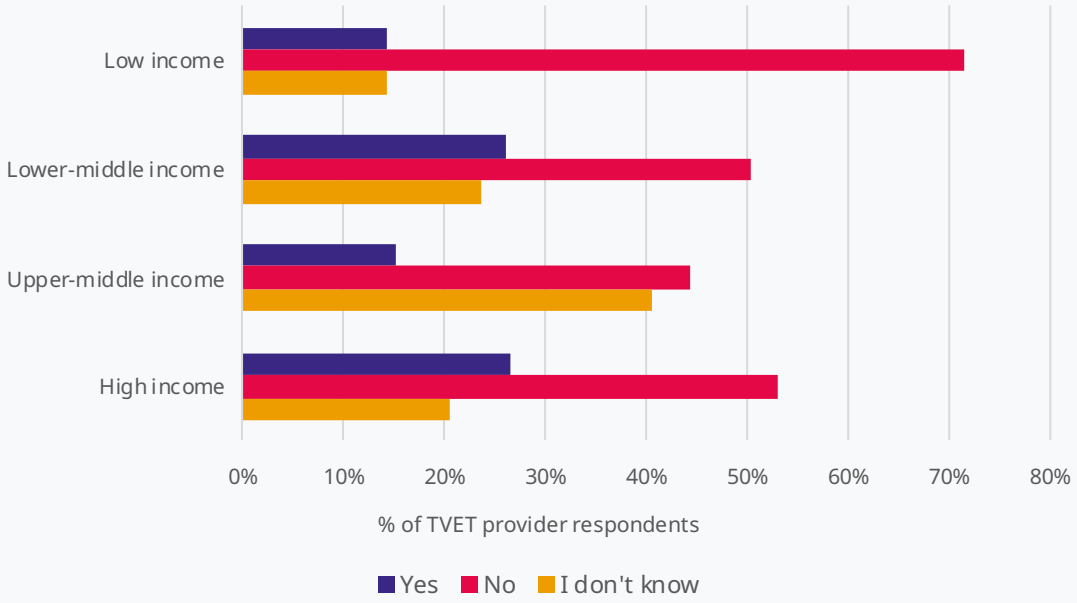
ICT-related occupations also experienced shortages, chiefly linked to developing and delivering online training materials for trainers, students and parents, and in networking and cybersecurity. A deficit of digital skills, from basic to advanced, was experienced across occupations and sectors as workers moved to teleworking, learners to online learning and services to online distribution channels. The COVID-19 crisis accelerated the process of digitalization and exposed pre-existing but as yet unnoticed shortages.

Labour shortages often mean that workers have to put in excessive hours to fill the gap, and this has a negative effect on working conditions on top of pandemic-related safety and health risks. Most of the occupations affected by this health crisis, with the exception of ICT-related jobs, are dominated by women (Grown and Sánchez-Páramo 2020) and women have therefore borne much of the frontline burden. This has aggravated the already disproportionate impact of the situation caused by the pandemic on women, who have also had to deal with the additional responsibility of ensuring children's learning continuity during school closures.

Just 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. The Arab States region was the region with the highest proportion of respondents – around one fourth of the total – reporting that measures had been taken to tackle imminent skill shortages. While slightly above one fourth of respondents from high-income countries deployed such measures, only 14 per cent of respondents in low-income countries did so (figure 11).

Figure 11. Percentage of TVET providers who reported measures addressing skill shortages in occupations or sectors affected by the COVID-19 pandemic, by income level of respondents' countries

Have any of these materials or technologies been developed to address skill shortages in occupations or sectors affected by the COVID-19 pandemic (such as health care workers, call centre operators)?



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

Note: based on 924 responses (out of out of a sub-sample of 985 comprising TVET providers only), raw percentages (unweighted) by income group: low-income (21 responses), lower-middle-income (123 responses), upper-middle-income (491 responses), and high-income (34 responses)

The following types of measures were identified by survey respondents:

- **Developing new and innovative training programmes and expanding existing courses**

  Many respondents reported the development of new courses, mostly in online format, to train health care workers or volunteers to support personnel in the health care sector, raising awareness on protective and preventive measures, health and safety regulations, hygiene, infection control, production, repair and maintenance of medical equipment, care for the aged and disability support (Australia, Austria, Canada, China, Ecuador, India, Indonesia, Iraq, Malta, Nepal, New Zealand, Trinidad and Tobago, United States of America, Viet Nam). These new programmes included certain innovative solutions, such as the use of virtual reality in the nursing programme (the representative of a training provider from the United States of America).

  Many countries also reported measures to tackle the COVID-19 related shortage of workers in ICT and related services and occupations, in particular digital skills training such as networking and cybersecurity (Italy, Republic of Moldova, Sri Lanka, United States of America). Other sectors which experienced a shortage of workers and reportedly benefited from training

measures were garments (Indonesia) for the manufacture of personal protective equipment and call centre operators (Indonesia and Malta) for health support services.

Some new programmes deployed interns and apprentices to support industries experiencing shortages. For instance, a TVET provider in Spain reported the establishment of an internship programme for caregivers in care centres and nursing homes which included a health and safety course.

Over the course of the COVID-19 pandemic, training providers, employment services and social partners mobilized measures for an immediate response to resolve most of the acute labour and skill shortages. But the survey revealed that many countries also seized the opportunity to use the period of confinement to respond to longer-term skill shortages, such as in the construction sector (Mongolia), technology-related skills (Australia[17]), cookery and hospitality (Malta and Sri Lanka). Other countries took the opportunity to respond to the immediate skill needs based on requests from employers, through the targeted systemization and mainstreaming of a system for the signalling of skills needs into the State-supported short-course training programme (Kazakhstan).

- **Developing new training materials and resources, both online and offline, and converting existing learning materials into an online format**

Many respondents reported on the development of resources and provision of access to learning materials on such issues as the production and handling of medical equipment (Malaysia), medical treatment (Viet Nam), staff and patient guidelines in medical facilities (Sri Lanka), production of masks and protective kits (Lebanon), mental health support (Honduras and Lebanon), guidance materials for patients with chronic diseases and the health facilities treating them (Ecuador). Other areas covered by such newly developed guidance materials and resources included cooking for poor families (Lebanon), software to simulate automotive technology (Viet Nam), and infection prevention measures in the workplace (United Kingdom).

A wide variety of resources are being developed, including videos and multimedia materials, guides, manuals, standard presentations, good practices, WhatsApp support groups, web resources, work platforms, call centres, instructional leaflets and clips, simulators and virtual reality tools.

- **Analysis of training needs initiated by governments and social partners**

In Kenya, the Ministry of Labour reportedly conducted interviews with representatives from the private sector, to gain a deeper understanding of the skill gaps. In Armenia, a respondent reported that the employers' confederation had initiated a quick survey among members to identify training needs. Respondents in other countries recounted how those countries had drawn on lessons learned from their stocktaking of skill needs in TVET during the pandemic with a view to mainstreaming necessary courses in the training system after the pandemic and developing resilience to potential future health crises (Israel).

17 See https://www.smh.com.au/national/coronavirus-pandemic-gives-australia-a-chance-to-fix-our-skills-gaps-in-technology-20200515-p54tee.html.

▶ **Support services**

Support services, such as call centres, were reportedly deployed to explain questions related to video lessons and online assessment systems for parents, students, teachers and frontline workers. For instance, according to a respondent in Uzbekistan, a call centre was created to respond to questions related to video lessons and online assessment systems for parents and students, and a special so-called "Telegram bot" was developed to automatically answer the most frequently asked questions. In Mexico, respondents described new video materials that had been created to support online teaching. In Peru, students were said to be supporting the frontline areas of the health sector through telephone calls.

▶ **Recruitment and training of additional teachers and trainers**

Many respondents mentioned shortages of the pedagogical and digital skills needed to deliver distance training. For instance, in Egypt it was recommended that collaborating enterprises and TVET providers should develop the capabilities of their instructors to make the transition from face-to-face courses to distance learning or should recruit online and distance learning experts and advisors through short-term contracts.

▶ **Training subsidies and other forms of direct support for affected sectors**

In the Republic of Korea, some sectors facing an employment emergency have reportedly been prioritized to receive subsidies for their training expenses. According to a study by the African Development Bank (AfDB and SENAI 2020), the Zambian Government also mobilized and facilitated funds to support key affected sectors and introduced lower interest rates for small and medium-sized enterprises. Such measures indirectly support training and retraining for key personnel.

▶ **Reorientation of training centres towards the production of protective equipment**

Some respondents noted that training facilities had been redeployed to produce protective equipment for medical workers, such as face masks and shields, protective clothing, medical machinery, ventilators and respirators, trolleys, hand-sanitizers and cleaning equipment (Colombia, Congo, Sri Lanka, Malaysia, Myanmar and Nigeria[18]). In Honduras, a training facility was reported to have been redesigned for hospitalization and testing.

▶ **Deploying workers, jobseekers, migrant workers and refugees for sectors in need, including fast-track licences and formal and informal recognition of skills**

Faced by the COVID-19 emergency, public authorities mobilized their systems of skills recognition to deploy workers for the sectors in need. For instance, in Egypt, a respondent reported that a robust competency assurance management system had been used to assess and verify the skills of individuals, allowing for accelerated access to work or retraining.

A survey conducted by the European Centre for the Development of Vocational Training (CEDEFOP) found that the authorities in Ireland had called for doctors and health-care professionals from refugee backgrounds, who were not licensed to practice in Ireland, to be included in the coronavirus response. In Austria, civil society worked with the Office of the United Nations High Commissioner for Refugees (UNHCR) to recruit health workers, garbage and recycling collectors and others for urgently needed services. There is also evidence that

18 Nigeria is included on the basis of the findings reported in the AfDB report (AfDB and SENAI 2020).

refugees in Europe had volunteered to help their host societies by doing COVID-related work, such as disinfecting shopping carts and baskets or sewing face masks (Cedefop 2020a).

The Organisation for Economic Co-operation and Development (OECD) found that, in sectors with shortages or expected shortages such as the medical and health care sectors, some countries were issuing short-term, fast track licenses (OECD 2020). For example, Canada was mobilizing unlicensed health professionals with foreign qualifications and recent medical school graduates to fight COVID-19. In the United States, several states and schools were allowing current medical and nursing students to graduate early and making it easier for migrants and foreign-trained medical professionals to provide patient care in hospitals. In the United Kingdom, a temporary register was launched to recruit both health professionals who had recently left the sector and qualified migrants and a set of measures put in place to enable students to finish their training on placement.

Many training programmes, actions and resources have been developed as an immediate response to the COVID-19 pandemic for the sectors suffering a shortage of labour and skills. As noted by an Ecuadorian respondent, however, it is important that these measures are maintained and mainstreamed in the system once the pandemic is over. It would also be important to improve the capacity of systems to deploy such measures quickly to deal with the problems of skills and labour shortages in the event of similar crises in the future.

4. TVET policy and system responses to COVID-19

This chapter presents the findings from the survey regarding the responses of TVET policy and systems to the challenges experienced during the early stages of the COVID-19 crisis. This includes examining the crisis-response preparedness of TVET providers around the world and discussing policies aimed at supporting existing TVET learners and teachers, as well as workers who engaged in learning either within enterprises or during business lockdowns. Lastly, the chapter explores emerging lessons learned from the experience of TVET providers during the pandemic, which can be valuable in the promotion of recovery and resilience in the future.

4.1 Overall policy responses for TVET

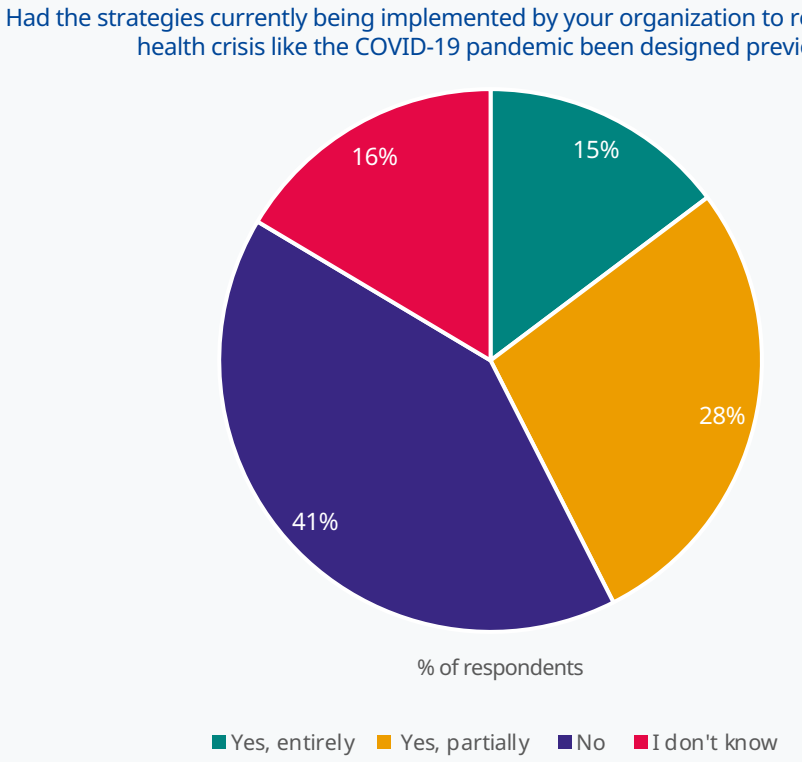
Most countries appear to have lacked an emergency strategy to respond to the shock that COVID-19 caused to their TVET systems. Only a small percentage of respondent countries had an emergency plan in place for rapid response to the COVID-19 pandemic. Reported pre-existing strategies to handle the crisis include measures aimed at preventing further infections and also efforts to provide distance learning. 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 (see figure 12). 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.[19]

A comparison between respondents in emerging and developed economies and those in developing economies demonstrates that the latter were far more likely to respond that the strategy being implemented had not been designed prior to the crisis: 61 per cent of all respondents in developing economies noted this, compared to around 40 per cent of respondents in emerging and developed economies.[20]

19 For the TVET provider sample, the distribution of responses is very similar to the above, with 16 and 28 per cent reporting that the crisis-response strategy was, correspondingly, entirely or partially in place before the COVID-19 pandemic, and 39 per cent reporting that the current strategy had not been previously designed.

20 The proportion of respondents replying “no” to the question whether a pre-existing crisis response strategy was being implemented was 40 per cent in emerging economies and 43 per cent in developed economies.

Figure 12. Implementation of pre-existing crisis-response strategy



Note: number of responses: 1,350 (out of 1,353 responses), raw percentages (unweighted).

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. Such measures were reported, for example, by TVET providers in Cambodia, the Democratic Republic of the Congo, Madagascar and Nigeria. In some cases, strategies included hygiene measures that were implemented in training institutions where education continues, as reported for example by a continuing TVET provider in Sri Lanka.

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. For example, a representative of the Ministry of Education and Technical Education in Egypt mentioned that remote learning in TVET was facilitated by recent efforts to expand digital learning and assessments, even though these efforts had not formed part of any tangible crisis response nor were they specifically targeted at TVET.

References to distance learning approaches that had been designed prior to the pandemic but not explicitly as a crisis response were also cited by, among others, representatives of the Ministry responsible for TVET in Burkina Faso, a TVET provider in Brunei Darussalam, and the National Service for Industrial Training (SENAI) in Brazil. One of the very few respondents who referred to a formal crisis response strategy was a representative of the Australian network of public technical and further education (TAFE)

institutes, who highlighted that all registered training organizations in the country were legally required to have a critical incident policy and procedure in place and available on their website.

Respondents in a majority of countries reported that a COVID-19 response policy for TVET was in place at the time of the survey but, within these countries, awareness of the existence of these policies fluctuated across respondents and respondent types. In two thirds (84 out of 126) of surveyed countries, it was reported by at least one respondent that policies were in place to encourage or manage initial or continuing vocational training in response to the crisis. Knowledge of the existence of these policies, however, was rarely universal. In only six of the countries with multiple respondents did all respondents unanimously report the existence of such a policy. In all other countries, there were also respondents who indicated that no such policies existed, or that they were unaware of such policies.[21] Representatives of ministries were somewhat more likely than other respondents to indicate the existence of a policy, which could possibly signal that national policies had been adopted by governments but that not all stakeholders were aware of them at the time of the survey.[22]

With some exceptions, policy responses for TVET seemed to be part of general education policies and therefore paid limited attention to specific features of TVET, such as work-based learning. Policies for TVET generally appeared to be integrated into those for general education and consisted largely of school closures and the promotion of online learning. Nonetheless, there were exceptions. For example, in Malaysia, the Ministry of Education reported having provided guidelines on students' industrial training or work-based learning. Work-based learning appeared to continue in some higher-income countries, such as Australia and many European Union Member States, including Belgium, France, Germany and Ireland, as demonstrated by the preliminary results of an online survey launched by the European Commission.[23] In the Netherlands, students in secondary-level TVET programmes could continue with work-based learning, unless government or sectoral guidelines prevented it or the TVET provider or student decided to put the work placement on hold.[24] In Switzerland, some apprenticeships in the service sector continued remotely in occupations where work was already largely online (for example finance, programming and marketing).[25] In Croatia, a platform has been set up where teaching material produced by teachers was made available for the different TVET sectoral programmes for all schools. These materials focused on the theoretical aspects of TVET, assuming that practical skills would be acquired once schools reopened.[26]

Individual TVET providers have taken steps to ensure the continued provision of training and other services. One example of this approach is furnished by the Luminus Education Group, a private training provider operating mostly in Jordan.[27] This private provider has developed and activated a continually evolving transformation plan to minimize the effect of the pandemic on students' education and provide a support mechanism. As part of this plan, the provider has adjusted and initiated its activities in the areas of outreach and recruitment; technology-enabled teaching delivery; operational services and employment services. In particular, its COVID-19 response plan started by clearly identifying the key challenges that the pandemic created for its students, combined with an assessment of their readiness

21 Countries with multiple respondents who all indicated that a policy exists: Italy, New Zealand, Nepal, Russian Federation, Saudi Arabia and the United Arab Emirates. All these countries had two or three respondents each.

22 Of the 88 countries with more than one survey respondent, there were 50 in which the share of ministry respondents reporting that a policy existed (39 per cent) was higher than the percentage of other respondents reporting the same thing (33 per cent); hence, while all ministry respondents might not have been aware of the policy, more people in the government were aware of it than in other sectors.

23 See https://ec.europa.eu/social/vocational-skills-week/fight-against-covid-19_en?web=1#1.

24 See https://www.mboraad.nl/nieuws/servicedocument-20-en-faqs-aanpak-corona-mbo-beschikbaar.

25 See www.gan-global.org

26 See http://nastava.asoo.hr

27 https://virtual.ltuc.com/wp-content/uploads/2020/05/Luminus-Transformation-In-Response-to-COVID-19-Outbreak-Report-1-.pdf

for online learning and expanded support to students in need of counselling. While many classes moved online quickly, the process was accompanied by continued teacher training and the provision of routers and laptops to teachers. Lastly, the provider's plan included the expansion and adaptation of its outreach to employers and job placement services, including efforts to attract more employers to its online employment hub platform, conducting research to identify changes in the demand for skills and the restructuring of its career readiness and life skills curriculum.

Health and safety measures in preparation for the resumption of face-to-face training ranged from generic to education-specific procedures. At the time that the ILO-UNESCO-World Bank survey was being conducted, many schools were still closed, and not all respondents were aware that there were special guidelines to ensure the health and safety for trainers and trainees during face-to-face training. Of those that did report the existence of guidelines, some referred to general national guidelines on, for example, physical distancing and regular handwashing. In some cases, reference was made to education-specific measures, such as reducing class sizes (reported by an initial TVET provider in Canada), staggering class break times (reported by a representative of Australia's network of public TAFE establishments), providing or mandating masks (TVET providers in Cambodia, Madagascar and Malaysia), conducting temperature checks for students and teachers (TVET providers in Cambodia, China, Madagascar and Malaysia) and blended learning (as reported by TAFE institutions Australia). In the case of New Zealand, governmental guidelines were differentiated by alert levels.[28]

Different mechanisms to acquaint learners with existing learning solutions and support them in choosing options were applied by a variety of stakeholders including, among others, ministries of education, training providers, and trade unions. The tools applied ranged from the use of television, social media, websites and webinars to directly contacting individual learners to offer support.

Listed below are some selected examples of respondents' reported support to learners to help them select training options:

- The Barbados Workers' Union provided online information about institutions that offer free online courses.[29]
- In the Kiribati Institute of Technology, the Heads of Schools and Student Support Services informed students which courses can be accessed online.
- In Malta, the Public Employment Service (Jobsplus) was contacting every participant attending a course or waiting to start a course to inform them about existing learning solutions. Similarly, the Institute of Tourism Studies was reaching out to all students to help them engage in and understand all the available learning options.
- In Sri Lanka, the donor-funded Skills for Inclusive Growth Programme used a network of industry coaches and training providers to raise awareness and encourage employers to offer workers and trainees upskilling opportunities.
- In Senegal, the ministry in charge of TVET had a communication strategy and a website offering distance learning and student support.

28 See http://education.govt.nz/assets/Uploads/final-final-detailed-tertiary-guidelines-for-alert-levels.pdf.

29 See https://www.bwu-bb.org.

4.2 Support measures for teachers and trainers

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. Within countries, the existence of support measures was often reported by some but not all respondents. For example, in Viet Nam, ten respondents (including representatives of TVET providers, employers' organizations, and the ministries of education and labour) reported some kind of support measures for teachers and trainers, while five others (TVET providers, a Ministry of Labour representative and a development partner) indicated that no support was available or that they had no information on that issue. Such mixed responses were common and occurred in almost 60 per cent of countries with multiple respondents.

The differences between responses within countries may be partly attributable to the targeted nature of support measures, for example because they were provided by individual TVET providers, at regional rather than national level, or to public providers but not to private providers. In other instances, support measures might have been intended to have a nationwide reach but – at least at the time that the survey was conducted – had not yet succeeded in reaching all intended stakeholders.

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.

Examples of online resources may be found, among other countries, in Belgium, Italy, the Republic of Korea and Uzbekistan. In Belgium, support for teachers included a portal supported by the Flemish Ministry of Education on which educational professionals shared learning materials for primary and secondary education, including TVET. The portal currently includes a specific site dedicated to teaching during the COVID-19 pandemic.[30] An online magazine for professionals in the education sector that is also supported by the Flemish Ministry of Education provides, among other resources, guidance and examples on how to teach and manage during the pandemic.[31] In a similar vein, a website supported by the Italian Ministry of Education provides multimedia materials, instructional narratives and examples of distance learning.[32] In the Republic of Korea, the Ministry of Employment and Labour created an online support centre in April 2020 to facilitate the provision of online training through, among other measures, offering manuals and best practices.[33] In Uzbekistan, the Ministry of National Education developed a guide for teachers and posted video blogs online.[34]

Examples of countries where teachers were provided with equipment or online training include Armenia and Sri Lanka. In Sri Lanka, a respondent from a technical college reported that teachers had been provided with facilities and equipment to develop video lessons. In Armenia, according to survey respondents, online training for TVET teachers was provided by the National Centre for Educational Technology Development. In cooperation with the National Network for Distance Learning, an online introduction to e-learning was delivered for 158 teachers from technical colleges and craftsmanship schools. The course was designed to introduce TVET managers and teachers to the opportunities

30 See https://www.klascement.net/thema/onderwijs-tijdens-corona/.

31 See https://www.klasse.be/.

32 See https://www.istruzione.it/coronavirus/didattica-a-distanza_lascuolanonsiferma.html.

33 See https://e-koreatech.step.or.kr/moel.

34 See https://www.youtube.com/channel/UCXEyWtrq2E7ZQ3D8tiOmCZg.

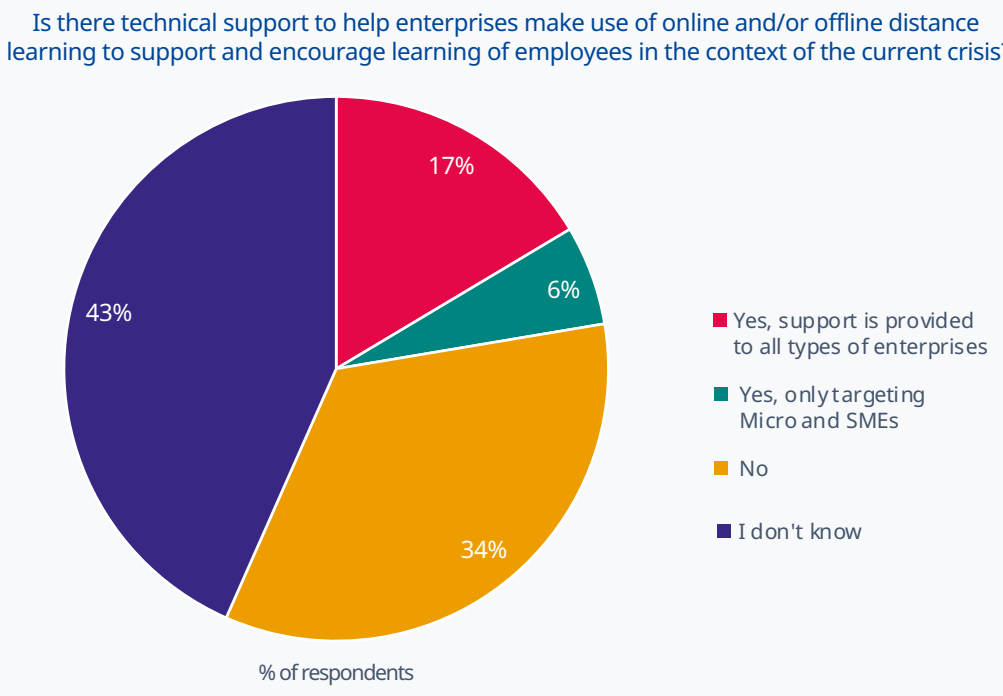
provided by educational information technologies, and the e-learning experience of educational organizations.

In other cases, support mostly consisted of raising awareness of general measures and guidance to prevent the spread of the pandemic. This appears to have been the case in Ethiopia, where the Federal TVET Agency emphasized raising awareness and providing supportive materials related to COVID-19.

4.3 Initiatives to support learning in enterprises or among laid-off workers

There appears to have been little systematic effort to support employers in using lockdowns to train their staff. During the spring of 2020, many employers temporarily ceased or reduced operations. Where technology and resources were in place, and family constraints were manageable, this could potentially have provided a good opportunity to reskill or upskill their staff. The survey does not reveal that any strong support or incentives were provided to enterprises to facilitate online or offline distance learning of their employees in the context of the current crisis.[35] 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 (see figure 13)[36]. This resonates with the findings from the Global Survey on the impact of COVID-19 on the training of employees, apprentices and interns in enterprises,

Figure 13. Support to enterprises and employees in distance learning



Note: Raw percentages, based on 1,351 (out of 1,353 responses).

35 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.

36 The distribution of responses is very similar in the TVET provider sample, with 33 per cent reporting no support and 45 per cent responding with "I don't know", implying very low awareness of such measures, even if they exist.

which also found firms reporting low levels of awareness of supportive measures to encourage the continuation of apprenticeships (ILO forthcoming).

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. Reference was made to online training that was offered, for example, by national TVET agencies or private training providers.[37] The Austrian and Finnish ministries of education, for example, referred to the large number of courses offered by lifelong learning institutions that continued to be available during the 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. For example, the African Union Development Agency offered webinars to improve workplace safety when employees return to work.[38] In the Philippines, the Technical Education and Skills Development Authority (TESDA) offers a free online course on practising COVID-19 preventive measures in the workplace, accessible through the TESDA online programme. In France, India, Italy and Mexico; Generation, a non-profit organization implementing global employment programmes, has rolled out modules to upskill health-care professionals to treat and provide care for COVID-19 patients.[39]

Learning practical skills, particularly in enterprises, has been very difficult. In Europe, during the crisis, apprentices in many instances appear to have continued their training and work, in particular, in the health-care, food, and building sectors, and generally, wherever companies continued their activities as long as health and safety measures were observed. On the other hand, apprentices largely discontinued their company attendance in the sectors whose activities have been shut down: such as hospitality, well-being and tourism (Cedefop 2020b). This said, practical training has often been shortened or, when possible, postponed. In some cases, alternatives have been found, such as remote project work or simulated demonstrations. In Spain, for example, the work-based learning component of apprenticeship programmes has been made more flexible, extending the calendar for the work placements, also with due consideration for university entrance exams. The work-based learning component was often being shortened and integrated into a tutored project module. In Austria, an amendment to the Vocational Training Act allows short-term work (effectively a wage subsidy) for apprentices, and some businesses encouraged working from home if possible.[40]

Portugal is an example of a country where the government has included financial support to employee training in its overall support package of COVID-19 measures. Under different government schemes, private firms can request funding so that their workers can use their free time for reskilling and upskilling purposes, by taking part in training measures, thus promoting lifelong learning. Different financing schemes are available both for firms that have announced lay-offs and also for those that have not.

In some cases, plans for reskilling workers who lost their jobs as a consequence of the pandemic have been in place or are beginning to be developed. The Australian Government's higher education relief package (announced on 12 April 2020) provides funding certainty to higher education providers and supports workers affected by the COVID-19 pandemic who are looking to upskill or retrain. The package includes online courses that last up to six months, aiming to help workers develop new skills to prepare

37 In addition, of the 22 per cent of respondents who did report that support exists, a fair share may have interpreted the question more broadly than had been intended. For example, some assumed that the question referred to any type of support that was provided to firms, rather than just skills-focused support. The proportion of 22 per cent may therefore be considered the upper limit.

38 See https://nepad.org/COVID-19.

39 See http://www.generation.org/COVID-19-global-response.

40 As demonstrated by the preliminary results of the online survey launched by the European Commission, https://ec.europa.eu/social/vocational-skills-week/fight-against-covid-19_en#3.

for the economy after the pandemic. Courses are available in the high-demand areas of nursing, teaching, health, ICT and science. Payment discounts and deferrals are available for certain population groups, such as students.[41]

In New Zealand, the tertiary education commission was asked to create and promote content showcasing training and lifelong learning options (especially vocational education training and apprenticeships) for individuals whose lives have been disrupted by the COVID-19 pandemic. There will also be content that helps guide first-time learners through the landscape of TVET options and microcredential opportunities– which will be linked to information about the Government's recent "Fees Free" initiative. A dedicated COVID-19 hub with content related to TVET is also under preparation. In Barbados, plans are scheduled for the provision of support to workers in the hotel sector – many of whom have lost their jobs – through training under the Government's National Training Initiative.

Some countries – especially in East Asia – are strengthening their active labour market programmes, particularly in regard to intermediation services and skills training. This is the case, for example, in China, Indonesia, Malaysia and the Philippines. In Indonesia, the Kartu Pra-Kerja (pre-employment card) programme, which provides subsidized vouchers for unemployed workers for skilling and reskilling has doubled its allocated budget. The programme will be accessible to an estimated 5.6 million informal workers and small and micro enterprises who have been affected by COVID-19. As reported in a World Bank note (Carranza et al. 2020), the Indonesia National Police will have a programme similar to Kartu Pra-Kerja, called the Safety Programme, specifically targeting bus, truck, and taxi drivers, covering an estimated 197,000 beneficiaries.

Various private initiatives designed to improve access to distance learning have been launched to benefit those who have recently become unemployed and employees with time on their hands. Examples of these initiatives include, for example, the online portal "Capacítate Para El Empleo", an initiative undertaken by the Carlos Slim Foundation offering free access to hundreds of courses and several diploma degrees for technical occupations. It was initiated in Mexico and has developed partnerships with organizations to expand this benefit to several Central American countries, including Guatemala and Honduras. Through its Workforce Recovery Initiative, the global online learning platform Coursera has forged partnerships with governments to provide access to online learning to upskill and reskill unemployed workers who have been particularly disadvantaged by the pandemic.[42]

4.4 Reported lessons learned from the COVID-19 response

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 for its high-quality provision; second, the importance of specific socio-emotional skills and behaviour that are essential to people if they are to weather and rebound from crises; and, third, preparedness for future crises. These three response categories were emphasized by respondents across countries at different levels of development, and by respondents of all types, including government officials, representatives of training institutions, and other stakeholders.

41 See https://www.dese.gov.au/covid-19/higher-education.

42 See https://www.coursera.org/government/workforce-recovery.

4.4.1 Importance of remote learning

On the first point, respondents noted that the pandemic had forced them to accelerate existing plans to expand remote learning options, and that expertise on the provision of remote training had increased substantially. For example, the representative of an international organization responded that, in Morocco, implementation by the Government of its Morocco Digital 2025 Strategy had been accelerated by the need to increase reliance on digital methods as part of the COVID-19 response. The representative of a TVET provider in China noted how teachers' ability to apply information technology and to develop online teaching materials had greatly improved as a result of the crisis.

Various respondents highlighted their experience of blended learning, noting the importance of its role and its potential value beyond the crisis. This was emphasized by, among others, representatives of the Ministry of Education and Technical Education in Egypt, a training provider in Madagascar and a non-governmental organization in Madagascar. During an interview, representatives of a large educational network for science and technology education in Israel stated their preference for at least 20 per cent of all education to be delivered online, since that would not only improve the digital skills of students and trainers, but also promote the acquisition of socio-emotional skills such as self-discipline.[43]

Specific recommendations in this area that may be gleaned from the survey responses are outlined below.

- **Increased investment in digital technologies and related skills by all TVET stakeholders is critical for the resilience of the system.**

  Respondents generally considered that the absence of appropriate equipment and internet access were the most serious constraints to distance learning, followed by weak digital skills on the part of students and trainers. While these challenges were highlighted by respondents from countries at all levels of development, they were particularly prevalent among respondents from low and middle-income countries. Reported challenges included the absence of computers, tablets or phones for trainers and, in particular, students, and also the poor quality and high cost of internet connectivity. In 25 out of 126 countries, respondents noted that there was limited access not only to computers and tablets, but also to phones or smartphones. This includes responses from TVET providers in low-income countries such as Ethiopia, Mozambique and the United Republic of Tanzania, but also from those in lower-middle-income countries such as India, Kyrgyzstan and the Republic of Moldova, and in upper-middle-income countries such as Jordan, Malaysia and Mexico.

  In eight countries, respondents highlighted the lack of reliable access to electricity as a key constraint. This challenge was not only reported by respondents from lower-income countries, such as a representative of the Ministry of Education of Burkina Faso and a training provider in Haiti. For example, a respondent from the Ministry of Education in Ghana, a lower-middle-income country, reported electricity challenges among students in remote areas. Respondents in high-income countries also reported substantial challenges related to equipment, connectivity and digital skills. Even in countries where access to equipment and

43 Source: phone interview by the World Bank on 27 April 2020 as part of the stocktaking exercise on COVID-19 responses of TVET providers.

connectivity is relatively widespread, some respondents noted that the reliance on distance learning risks exacerbating existing inequalities.[44]

In higher-income countries in particular available distance learning methods are insufficient to support the acquisition of practical skills. Respondents in nearly half of the 30 high-income countries from which responses to the survey were received emphasized that the available remote learning options were a poor substitute for school workshops or work placements for the acquisition of practical skills.[45] The ministry responsible for TVET in Finland reported that challenges in continuing work-based learning had been sector-specific, and had been strongest in the service sector, as enterprises in that sector faced more severe restrictions and closures. A respondent from the Korean University of Technology and Education in the Republic of Korea pointed out that the lack of participatory and experimental training has a hindrance to the acquisition not only of practical abilities, but also of socio-emotional skills in such areas as problem solving.

- **Ensuring the participation and learning of disadvantaged students in remote learning calls for particular efforts.**

  A representative of a TVET provider in Chile noted that students with low levels of autonomy may struggle more with distance learning. A representative of Australia's network of public Technical and Further Education suggested that students suffering financial hardships would find it particularly difficult to focus on studying.

- **The different dynamics of distance learning compared to face-to-face training requires different teaching approaches to ensure optimal student engagement and learning.**

  Differences in dynamics had resulted, among other effects, in obstacles to the engagement of all students in an online environment, as was reported for example by respondents in Australia (Department of Education in Tasmania), Iceland (TVET provider) and the United Kingdom (TVET provider). A respondent from the Iceland Ministry of Education, Culture and Science pointed out that online teaching presented fewer opportunities for students to learn from one another. Lastly, respondents in Iceland (TVET provider) and Italy (employment services provider) pointed out that providing distance learning was relatively time intensive.

- **The difficulty of imparting practical skills by remote learning poses a particular challenge to TVET, necessitating investment in new learning methods and greater flexibility.**

  As discussed earlier, some countries have found partial alternatives enabling them to continue providing practical skills training during the crisis, including through the use of simulation tools or encouraging remote project work. In critical sectors, workplace-based learning continued with strengthened health and sanitation measures. In a majority of cases however, when firms shut down or reopened with limited staff, practical training suffered. For practical skills that are typically delivered in a classroom setting, similar challenges were reported. As a result, practical training requirements have often been reduced for final year students and postponed for the rest.

44 This point was made, for example, by respondents from the Austrian Federal Ministry for Education, Science and Research and the Finnish Ministry of Education and Culture.

45 Challenges relating to the acquisition of practical skills were reported in Argentina, Australia, Belgium, Canada, Croatia, Finland, Iceland, Japan, Malta, New Zealand, the Republic of Korea, the United Arab Emirates, the United Kingdom and the United States.

Consequently the experience in this crisis points towards the need to invest in developing new learning methods that can cater to the practical aspects of most skills training in TVET and recognize the importance of advance preparation and flexible arrangements – where possible – for imparting these skills. Moreover, this is one area where partnerships with the private sector are critical in order to foster these investments at the corporate level and to promote the adoption of beneficial practices among other private and public sector enterprises or training providers. Siemens, for example, provides online learning to apprentices, using both its own and bought-in materials.[46] When looking to the future, it will also be increasingly important to strengthen systems for the recognition and validation of digital and remote learning.

The reports included a range of lessons learned on ways and means of boosting the quality and reach of remote learning, notable among which were those recommending improved teacher preparedness and skills. Responding TVET providers in many countries, including Armenia, Cambodia, Mexico and Malaysia, focused on the importance of training teachers to improve their online teaching skills, covering ICT skills, the planning and delivery of online lessons, and the ability to adapt to new situations and learn new skills. This observation was shared with representatives of ministries of education, including in Armenia, Bosnia and Herzegovina and Malaysia. Respondents in Ecuador (TVET provider), Nigeria (various training providers and a representative of the Federal Ministry of Youth and Sports Development), the Philippines (various TVET providers and the representative of an employers' organization) and Sri Lanka (TVET provider) also believed that, with the experience in online learning gained from the COVID-19 crisis, they envisaged a future that continued to incorporate online learning in training students and teachers. Respondents such as a TVET provider from Ecuador also noted, however, that work would have to be done to improve the quality of remote learning and to promote its acceptance. TVET providers in, among other countries, Pakistan, the Philippines and the Republic of Korea emphasized the importance of developing online platforms and digital content in – sometimes multiple – languages other than English to support online learning. Respondents from, among other countries, Bhutan (TVET provider), Chile (TVET provider) and Finland (Ministry of Education and Culture) also noted disparities in students' and teachers' access to proper equipment and the internet, and also in their digital skills, and stressed the importance of bridging these gaps.[47]

4.4.2 Necessary socio-emotional skills

On the second point, various respondents pointed to specific socio-emotional skills, behaviour and values that had been of particular assistance in the crisis response. Representatives of TVET providers in Mexico pointed to the importance of teamwork and solidarity between the school community, parents and teachers. The need for flexibility and openness to change was emphasized, among others, by representatives of TVET providers in China and Ecuador. A TVET provider in Armenia emphasized the importance of and the need to develop mutual respect, honesty and basic values to respond to challenges. Many respondents, in such countries as China, Japan, Kyrgyzstan, Malaysia and Mexico, pointed to the importance of students' attitudes to learning in facilitating their switch to remote, self-directed learning.

46 As reported in the survey by the European Commission on the response of European TVET systems to COVID-19, https://ec.europa.eu/social/vocational-skills-week/fight-against-covid-19_en#3.

47 While the survey does not provide much information on particularly vulnerable groups, for the education system as a whole, students living in poor or rural areas, girls, refugees, persons with disabilities and forcibly displaced persons appear to be facing particular difficulties. For more on this issue, see https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf.

4.4.3 Future preparedness

Lastly, the importance of being well-prepared for future crises was highlighted, among others, by TVET providers and other respondents from Armenia, Ecuador, Ghana, Jordan, Kiribati, Malaysia, Mexico, the Philippines and Sri Lanka. TVET providers in Mexico and Uzbekistan noted that they were unprepared for crises, in particular of this magnitude. Representatives of employers' organizations from Ghana and the Philippines, and of TVET providers in Ecuador and Sri Lanka noted the need to be prepared and to have a contingency plan for future crises. A TVET provider from Jordan added that the crisis plan should set out priorities and should be realistic in determining what would be feasible to implement during times of crisis. Representatives of training providers in Kiribati and Malaysia further indicated that preparations for a future crisis should include the development of training measures for teachers and staff so they could be prepared for and adapt to different teaching modalities. In general, there was widespread recognition that a lack of preparedness for the COVID-19 crisis had contributed to the challenges faced by TVET providers, and that a valuable lesson could be drawn from that shortcoming to motivate investment in a better prepared response to future crises.

5. Key messages and policy recommendations

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. Disruptions in supply and dearth of demand have caused devastating effects on labour markets with massive income, productivity and job losses, especially in most affected sectors such as tourism and manufacturing. The crisis is leading to the major reallocation of employment across sectors and, in the recovery phase, it will be necessary to have policies in place to accompany this shift and to smooth down a heavy impact on workers and firms. It may take many years for economies and labour markets to recover from this shock. Skills development, being a shared responsibility among governments, social partners and individuals, has an important role to play in the immediate response to the economic crisis, in getting people back to work and helping workers to find new jobs in new sectors and occupations and also in building resilience and implementing longer-term recovery strategies.[48]

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. 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. Disruptions in assessments and certification and the decline in the quality of training have caused demotivation among learners and teachers and increased the risk of students and trainees dropping out from learning.

The COVID-19 pandemic has not only disrupted learning but also revealed and brought to the surface problems that predated the current crisis, such as the lack of technological infrastructure and digital connectivity, skill gaps in online teaching and learning, the shortage of digital skills and skilled workers, unequal access to education and training among students and workers, the lack of digital and pedagogical resources, the absence of learning platforms and support services, and financial constraints. The pandemic has not only revealed but also exacerbated the impact of the digital divide, including the digital skills divide, between countries, between urban and rural areas, and between women and men. Women, young people, older people and migrant workers have been particularly badly affected by the crisis.

Against this backdrop, the analysis of the global survey gives an idea of the level of the overall response of TVET systems during the early stages of the COVID-19 crisis. The following policy recommendations focus not only on distance learning, and related high and low tech solutions, but

48 The International Labour Conference Conclusions on skills for improved productivity, employment growth and development (ILC, 2008), in line with the ILO Recommendation on Human Resources Development No. 195 (2004) and the ILO Human Resources Development Convention No. 142 (1975), agreed that "Governments have overall responsibility for creating, in consultation with the social partners, the enabling framework to meet current and future skills needs", and that "countries that have succeeded in linking skills to productivity, employment, development and decent work, have targeted skills development policy towards three main objectives: (a) matching supply to current demand for skills; (b) helping workers and enterprises adjust to change; and (c) building and sustaining competencies for future labour market needs".

also more generally on policy measures to ensure recovery from the current health and economic crisis, and the better preparedness of TVET systems for future shocks.

5.1 Key messages

Key messages derived from the survey responses include the following:

- **Many countries and stakeholders in the TVET sphere were insufficiently prepared to respond adequately and swiftly to the shock caused by the COVID-19 pandemic.**

  Closures took many of those concerned by surprise, and responses developed gradually, at a different pace across countries and training providers. Understandably, public health measures to contain the spread of the pandemic were prioritized, followed by strategies to expand distance learning to as many students as possible.

- **For many TVET providers, the switch to remote learning has been a process of learning by doing.**

  Few countries and training providers had a sufficiently strong basis of equipment, connectivity, remote learning software and platforms, and pedagogical resources, and students and instructors with the necessary digital skills to be able to adapt their TVET services smoothly. In contrast, those that started from a lower base faced substantially greater challenges. Even in countries with better resources, disadvantaged students faced constraints to their continued access to remote learning opportunities.

- **The COVID-19 pandemic has accelerated many changes already under way in training systems and labour markets, such as digitalization, but has also been a major disruptor for economies and societies.**

  Many economic sectors, especially where production and services could not be provided remotely, experienced major losses in working hours and jobs. Others experienced difficulties in transitioning to new online modes of working, producing and serving. Shortages of protective and other healthcare equipment were a motivator for many organizations, including TVET providers, to switch to their production. Many new training programmes and resources have been developed as an immediate response to the COVID-19 pandemic for the sectors in shortage of labour and skills.

- **The need for a rapid response to school closures has substantially increased the understanding of distance learning, appreciation of its benefits, and awareness of its challenges.**

  Looking ahead, this may result in increased reliance on remote training as part of a blended learning approach, thereby facilitating the attainment of TVET credentials and improving the capacity to support lifelong learning. In addition, various respondents highlighted how the crisis response had emphasized the importance of solidarity and mutual respect between school management, trainers, parents and students, and also of socio-emotional skills, such as openness to change and propensity for teamwork.

- **The COVID-19 crisis has also provided the impetus to create or strengthen public-private partnerships and collaboration in TVET.**

  The provision of digital equipment and tools to teachers and underprivileged learners, technical services to facilitate digital and distance learning, and support for the development of new

approaches to the assessment and certification of skills are a few examples of collaborative partnerships forged as a response to the crisis. Furthermore, governments, training providers and social partners have taken targeted actions and measures to address the shortages of labour and skills brought on by the COVID-19 crisis. The disruptions have forced stakeholders to rethink existing training programmes and materials, and systems for the assessment of skills needs for skills recognition, while supporting the urgent needs within health-care and other essential sectors in the fight against COVID-19.

- **Notwithstanding all efforts by the stakeholders involved, substantial constraints have prevented the continuation of good quality TVET provision for all population groups, in particular those in lower-income countries and more vulnerable households.**

  In addition to the frequent absence of strong and realistic crisis-response plans, TVET providers and learners faced a wide range of obstacles to effective remote learning. These included the lack of appropriate hardware and software; inadequate infrastructure necessary to ensure a good internet connection; a lack of digital skills in both trainers and learners; a dearth of training materials and tools to support remote learning; a lack of competence by teachers in effective remote teaching practices; and insufficient support for learners, in particular those living in environments that are not conducive to learning. In most countries, measures were eventually put in place to support teachers working remotely, often through the provision of online resources and guidance. While helpful, these measures were generally unable to alleviate all the constraints that trainers and learners faced in providing distance training.

- **Moreover, policy responses and remote learning options have struggled to deliver on some of the key features of TVET, namely the acquisition of practical skills and work-based learning.**

  With some exceptions, the distance learning systems offered during the COVID-19 crisis have generally not fostered the acquisition of a large range of practical skills at an affordable cost. Lastly, governments and other stakeholders are only slowly recognizing how the reskilling and upskilling of the working-age population will better prepare their countries for the recovery and rebuilding of their economies.

5.2 Recommendations

Skills are crucial for resolving some of the problems brought about or accelerated by the pandemic. Skills development is key to adapting to a changing business models and labour market, to ensuring equality of opportunity and to promoting social cohesion. In the longer term, skills development is also essential for meeting other challenges imposed by global drivers of change, such as climate change, globalization and demographic changes. The following recommendations are put forward in the context of the COVID-19 pandemic as immediate response measures along with other policy solutions that would allow countries to rebuild better – fairer, stronger and more resilient.

In the immediate future, the main priority is to return to regular schooling and learning. With schools and colleges reopening, organizing the teaching and learning process while the pandemic continues remains an urgent objective for many countries and regions. The new wave of the COVID-19 virus has raised expectations of new lockdowns in some regions, with schools shutting down again, sometimes partially, sometimes fully. Schools are not simply a means of knowledge transfer; they play an important socializing role for children and young people and often provide learners with their only source of support, whether nutritional or psychosocial. For that reason, wherever possible, face-to-face schooling should be preserved; for TVET, the case for return to in-person learning is also strengthened by the imperfect substitution of hands-on training (in classrooms, labs and workplaces) by remote learning

modalities, for most specializations. It is important to organize the reopening process by ensuring appropriate health and safety measures to protect both students and teachers. For those still learning remotely, the organization of distance learning can be informed by a wealth of good practice examples, collected over the months of the pandemic (see ILO 2020b, 2020c and 2020d), and will benefit from digital tools and resources. Additional human and financial resources will be of assistance in organizing the process and will facilitate smoother learning.

The recommendations below suggest the three main areas where TVET stakeholders can work together during and after the COVID-19 pandemic. They 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**

1. **Invest in the development of adequate crisis-response plans for the education sector, from the national down to the provider level**. These should accord sufficient attention to TVET-specific features such as practical skills acquisition and work-based learning, and investments in the building of sufficient capacity to implement these plans. To the extent possible, these plans should also be coordinated with the private sector, both as providers of work-based learning and as critical partners in the overall skills development system.

2. **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.** This includes capacity development for teaching and learning on the use of blended learning, involving a combination of face-to-face and remote training, online and offline instruction, and also high-tech, low-tech and no-tech solutions, depending on the local and national contexts and the changing skills needs of industries and enterprises. In addition, peer-to-peer learning both for teachers and for students can be encouraged with a view to learning from previous challenges, exchanging good practices for teaching and learning and providing mutual support.

▶ **Enhance access to education and training**

3. **Improve internet infrastructure and ensure affordable connectivity.** A number of factors make it difficult for people to have access to the internet, in particular in low and middle-income countries. These include the relatively high cost of devices and data, lack of digital literacy, and also digital policy and operational barriers. It is indispensable for policymakers to look into ways of reducing the cost of telecommunications, improving network efficiency, enabling affordable services, increasing digital competition and supporting vulnerable communities through digital subsidies.

4. **Invest in developing and maintaining easy access to distance learning platforms and learning spaces for TVET.** In order to ensure access by all learners, it is indispensable to develop high-tech and low-tech distance learning platforms to ensure preparedness of learning systems in times of crisis and beyond. In particular, practical skills development has suffered more as these skills are harder to disseminate through distance learning. TVET providers and TVET policymakers, working in collaboration with other stakeholders – including the private sector – must innovate and find ways of overcoming such challenges in the future.

5. **Collaborate with private entities in the education technology sector at the national level.** A number of promising education technology initiatives have been mounted around the world in the form of start-ups or social initiatives by private tech companies. TVET systems should try and collaborate with experts in this area to benefit from existing knowledge and work being carried out by private initiatives in their country. This will enable the TVET sector to capitalize

on this development of educational technology and to benefit from customized resources for trainees for better programmes.

6. **Emphasize equality and inclusiveness to ensure that people have broad access to training opportunities throughout their working life**. While young people are targeted by many development partners, training for adults of working age receives much less attention despite its importance from the perspective of lifelong learning. The focus should not only be on school-to-work transitions, but also work-to-work transitions and the upskilling and reskilling of young people and adults. Workers in non-standard or temporary employment should also be considered as they often lack sufficient opportunities for training. Furthermore, in the application of digital solutions, consideration must be given to potential access constraints faced by specific population groups, such as the limited access to digital devices and infrastructure in rural areas or by women, and active labour market policy measures should be deployed to benefit such vulnerable groups.

▶ **Deliver relevant training and skills to build back better**

7. **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**. This involves the rapid assessment of labour market trends and emerging skills needs and the agile adaptation of training programmes in response to those needs, through such measures as widening the scope of short-term training and modular training programmes that lead to micro-credentials, such as nanodegrees.

8. **Mainstream successful emerging innovations in new training programmes, learning platforms and resources into the TVET system**. A number of viable training products have been invented were put together in a quick reaction to the changing demand and in response to the changing demand and skills shortages demonstrated during the pandemic, along with support measures for remote teaching and learning. Mainstreaming these in the TVET system will increase resilience and build the capacity of systems to deploy such measures quickly in the event of future crises. If all the lessons learned are assimilated and the achievements sustained, longer-term impacts will be ensured at the system level.

9. **Strengthen systems for the validation and recognition of all forms of learning.** The pandemic pushed forward the digital agenda in TVET, accelerating digital learning. It will be important to capitalize on this achievement and make sure that skills attained through digital learning are validated, recognized and used. With the growing use of MOOCs and educational technology, it would be important to improve the systems of validation and recognition of all forms of learning, including informal and non-formal varieties. The use of micro credentials and digital badges, along with the work on world reference levels, may help to improve the situation. Forging partnerships with the private sector in exploring ways of recognizing skills will help to ensure that skills are employed to their full productivity potential. Skills recognition is also an important element of social inclusion, in particular among migrant workers.

10. **Increase efforts to reskill and upskill workers, with a view to rebuilding back better and achieving full employment**. This is especially important for those who lost their jobs, their livelihoods or risk unemployment under the economic impact of the pandemic, including the self-employed and workers in the informal sector. Helping workers and firms to move from hard-hit to expanding sectors will in part depend on the capacity of the education and training system to support them in that transition. Investing in lifelong learning systems with financial and non-financial incentives for lifelong learning is an important prerequisite for the improved uptake of learning, especially in times of crisis. Such measures should be complemented by social protection and income security provisions to allow for learning and transitioning to new jobs. The complex and comprehensive skills measures may be costly and it is therefore advisable to integrate them into fiscal recovery policy packages.

References

AfDB (African Development Bank) and SENAI (Brazilian National Service for Industrial Training). 2020. *Impacts of COVID-19 Pandemic in African TVET Institutions.*

Arias, Omar, David K. Evans, and Indhira Santos. 2019. *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusivity, and Adaptability.* Africa Development Forum series. Washington, DC: World Bank. doi:10.1596/978-1-1149-4. License: Creative Commons Attribution CC BY 3.0 IGO.

Carranza, Eliana, Thomas Farole, Ugo Gentilini, Matteo Morgandi, Truman Packard, Indhira Santos and Michael Weber. 2020. "Managing the Employment Impacts of the COVID-19 Crisis: Policy Options for Relief and Restructuring". Jobs Working Paper No. 49. World Bank. https://openknowledge.worldbank.org/handle/10986/34263 License: CC BY 3.0 IGO.

Cedefop (European Centre for the Development of Vocational Training). 2020a. "Refugees Easing COVID-19 Skills Shortages: Lessons for the Future", *Skills Panorama.* https://skillspanorama.cedefop.europa.eu/en/blog/refugees-easing-covid-19-skills-shortages-lessons-future.

———. 2020b. "How Are European Countries Managing Apprenticeships to Respond to the COVID-19 Crisis? Synthesis Report based on Information Provided by Cedefop Community of ApprenticeshipExperts".https://www.cedefop.europa.eu/files/cedefop_community_apprenticeship_experts_synthesis_how_are_european_countries_managing_apprenticeships_to_respond_to_the_coronavirus_crisis.pdf.

Grown, Caren, and Carolina Sánchez-Páramo. 2020. "The Coronavirus Is Not Gender-blind, Nor Should We Be". *World Bank Blogs* (blog). 20 April 2020. https://blogs.worldbank.org/voices/coronavirus-not-gender-blind-nor-should-we-be?cid=SHR_BlogSiteShare_EN_EXT.

ILO. 2020a. *ILO Monitor: COVID-19 and the World of Work. Fifth edition. Updated estimates and analysis.*

———. 2020b. *Teaching Online during COVID-19. Resources for TVET Teachers and Trainers.* ILO Note.

———. 2020c. *Managing TVET during COVID-19. Resources for TVET Managers and Policy-Makers.* ILO Note.

———. 2020d. *Learning Online during COVID-19. Resources for Students/Apprentices/Learners/Trainees.* ILO Note.

———. 2020e. *Skills Note: Distance Learning during the Time of COVID-19.*

———. 2020f. *COVID-19 and the education sector. ILO Sectoral Brief.*

———. Forthcoming. *Report on the global online survey on the impact of COVID 19 pandemic on training and development of employees, apprentices and interns.*

ILO/Cinterfor (Inter-American Centre for Knowledge Development in Vocational Training). 2020. "Vocational training: a response to COVID-19". https://www.oitcinterfor.org/en/fp_covid19.

ILOSTAT. 2020. "COVID-19: Are there enough health workers?" ILOSTAT blog. https://ilostat.ilo.org/covid-19-are-there-enough-health-workers/.

ITU (International Telecommunication Union) and UNESCO (United Nations Educational, Scientific and Cultural Organization). 2020. *State of Broadband Report 2020.* License: CC BY-NC-SA 3.0 IGO. https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.21-2020-PDF-E.pdf.

OECD (Organisation of Economic Co-operation and Development). 2020. *VET in a Time of Crisis: Building Foundations for Resilient Vocational Education and Training Systems.* http://www.oecd.org/coronavirus/policy-responses/vet-in-a-time-of-crisis-building-foundations-for-resilient-vocational-education-and-training-systems-efff194c/.

UN (United Nations) 2020. *Shared Responsibility, Global Solidarity: Responding to the Socio-Economic Impacts of COVID-19*. March 2020. https://www.un.org/sites/un2.un.org/files/sg_report_socio-economic_impact_of_covid19.pdf.

World Bank, 2020. "World Bank Education and COVID-19". Interactive database. https://www.worldbank.org/en/data/interactive/2020/03/24/world-bank-education-and-covid-19.

Annex I. List of countries and territories

Country and territory name	Region	Income group	Number of respondents
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 the 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	2
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 [49]	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
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
Mongolia	Asia and the Pacific	Lower-middle-income	8
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
Republic of Moldova	Europe and Central Asia	Lower-middle-income	13
Romania	Europe and Central Asia	Upper-middle-income	1
Russian Federation	Europe and Central Asia	Upper-middle-income	3

49 as defined in UN Security Council resolution 1244 of 1999

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	2
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

Annex II. List of useful TVET related tools and resources

The following websites (all last accessed on 14 January 2021) are highlighted by respondents as useful sources of materials for TVET 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
- Edmodo: https://new.edmodo.com/
- 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 VET: 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 and regional levels: contents for online and 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 and local levels: contents for online and 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)

- 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)
- Online skills platform: https://www.confederationcollege.ca/ (Canada)
- IDAN educational centre: https://idan.is/um-okkur/english/ (Iceland)
- Ucidoma primary and secondary education: https://www.ucidoma.me/ (Montenegro)
- Virtual professional learning: https://nastava.asoo.hr/ (Croatia)
- 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/ (Republic of Moldova)
- IDAN educational centre: https://www.rea.ru/ (Russian Federation)
- Careerforce: https://www.careerforce.org.nz/ (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 materials 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)

- Chisholm TAFE: https://www.chisholm.edu.au/ (Australia)
- Free online courses in Portuguese: http://web.iema.ma.gov.br/maranhaoprofissionalizado/start/ (Brazil)
- 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 III. Online survey questionnaire

ILO-UNESCO-WBG survey on addressing the COVID-19 pandemic for technical and vocational education and training (TVET) providers, policy makers and social partners.

The COVID-19 pandemic affected the way we work and learn in the unprecedented way. Training providers and policy makers are looking for quick, practical and innovative solutions. The purpose of this survey prepared by the International Labour Organization (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank Group (WBG) is to gather good practices and share knowledge to help countries around the world to mitigate the effects of the COVID-19 pandemic in the areas of education and training. The survey targets providers of initial and continuing technical and vocational education and training, policy makers and social partners. Your answers will contribute to stocktaking and sharing knowledge about experiences and good practices, strategies and tools, that can help TVET learners and trainers, policy makers, social partners and other stakeholders to mitigate impacts, manage the learning and training process effectively and increase resilience in the difficult time of the pandemic.

We greatly appreciate your valuable time and efforts that you will spend in filling out this survey.

Should you have any questions or issues, please contact us via our emails: chunh@ilo.org or h.katayama@unesco.org

1. Are you...

- ☐ Initial Technical and Vocational Education and Training (TVET) provider organization (training centre, school, etc.)
- ☐ Continuing TVET provider organization (training centre, school, etc.)
- ☐ Ministry of Labour
- ☐ Ministry of Education, or Ministry of TVET
- ☐ National training authority, regulatory body (certification or qualification authority; quality assurance agency; apprenticeship council, etc.
- ☐ Employment services
- ☐ Representative of Employers' organization or another business membership organisation, such as Chambers of Commerce
- ☐ Representative of Worker's organization/ Trade Union
- ☐ Other (please specify) .....

2. You are not obliged to identify your organization but if you would like to receive feedback on your contribution and obtain the results of this survey, please provide contact details. This information will not be shared with others.

Name of the institution: .....

Name of the person completing the form: .....

Contact E-mail: .....

3. Select your country

.....

4. Has your country closed TVET schools and training centres as a measure to counter the COVID-19 pandemic?

- ☐ Yes, completely
- ☐ Partially (only specific regions)
- ☐ Partially (only specific activities)
- ☐ No closures
- ☐ I don't know

5. Has the delivery of work-based learning and apprenticeships been affected by the closure of workplaces?

- ☐ Yes
- ☐ No
- ☐ I don't know

6. If you selected 'Yes' in Q5, please specify further how the training delivery has been affected, including the situation and motivation of trainers and learners

.....

7. Are certifying exams or assessments for TVET trainees being held?

- ☐ Yes, as usual
- ☐ No, they are postponed
- ☐ No, they are cancelled

8. Please describe how practical skills like those usually developed in workshops/laboratories or through work-based learning and apprenticeships are being provided/assessed in this period of COVID-19 pandemic.

.....

9. How often online and/or distance learning was used for courses and trainings before the outbreak of the COVID-19 in the scope of your organisation?

- ☐ Very often
- ☐ Regularly
- ☐ Occasionally
- ☐ Not at all
- ☐ I don't know

10. How is training being provided in this period of the COVID-19 pandemic?

- ☐ Fully remote (online and/or offline distance learning, no face to face contact)
- ☐ Partially remote (a mixture of face to face, online and/or offline distance learning)
- ☐ No online or offline distance learning offered as we continue providing face-to-face training
- ☐ No online or offline distance learning is offered as we had to cancel all training due to the COVID-19 pandemic
- ☐ I don't know

11. If no online or offline distance learning is offered, could you briefly explain the reasons:

.....

12. If you continue to provide face-to-face training, have you developed special guidelines on health and safety for trainers/teachers and trainees in face-to-face training? Please briefly explain.

.....

13. To provide courses and trainings remotely, are you using:

- ☐ Only online learning platforms (any form of learning conducted over the Internet)
- ☐ Only offline distance learning tools (use of written materials, workbook, TV, radio, etc)
- ☐ Both (online/offline distance learning)
- ☐ I don't know

14. Please indicate the web address of your online and/or offline distance learning portal, if possible

.....

15. Can migrants take part in your online and/or offline distance training courses?

- ☐ Yes
- ☐ No
- ☐ I don't know

16. Are additional human and financial resources are being committed in your organisation to create new materials, deploy new technologies and/or expand the use of online and offline distance learning?

If you selected 'Yes', go to Question 17, if not, go to Question 21.

- ☐ Yes
- ☐ No
- ☐ I don't know

17. What are the tools or resources you are developing or expanding to increase online and/or offline distance learning?

- ☐ Encouraging the use of video conference between teachers and participants
- ☐ Developing simulators, virtual reality or augmented reality tools
- ☐ Creating virtual learning environments
- ☐ Developing blogs, discussion forums
- ☐ Using podcasts
- ☐ Using TV
- ☐ Developing videos
- ☐ Using You Tube
- ☐ Distributing written resources
- ☐ Developing new written resources (self-paced learning guides, learner notes)
- ☐ I don't know
- ☐ Other (please explain) .....

18. Have any of these materials or technologies been developed to address skill shortages in occupations or sectors affected by the COVID-19 pandemic (such as health care workers, call centre operators)?

- ☐ Yes
- ☐ No
- ☐ I don't know

19. If you selected 'Yes' in Q18, please elaborate further

.....

20. Are the new online or offline distance learning arrangements open to new enrollments or only to existing students?

- ☐ Open to new enrolments
- ☐ Only to existing students
- ☐ I don't know

21. Had the strategies currently being implemented by your organization to respond to a public health crisis like the COVID-19 pandemic been designed previously?

- ☐ Yes, entirely
- ☐ Yes, partially
- ☐ No
- ☐ I don't know

22. Please elaborate further on how the implemented strategies had been designed

.....

23. What have been the main lessons learned during the implementation of the strategies under the COVID-19 pandemic when it comes to the training provision process, role of teachers, and new skills needed for implementing online and/or distance learning?

.....

24. What are the main obstacles in terms of training/course provision and participation of trainees?

.....

25. Are you aware of any tool, practice or system of on-line initial or continuing vocational education and training that could be useful for other countries (for training providers or policy makers) to ensure continuity of TVET provision during the COVID-19 pandemic?

.....

26. What kind of support is being provided to teachers and trainers to respond to the challenges and to move into online and/or distance learning and expand on it?

.....

27. Do you have online guides or manuals in support of training providers and teacher/trainers that you may wish to share?

.....

28. Please insert below links to on-line materials/guides that can be useful for TVET providers (in English if possible, or other languages if not available in English)

.....

29. Please upload here a file (if available) with information about on-line materials/guides that can be useful for TVET providers (in English if possible, or other languages if not available in English)

.....

30. 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?

☐ Yes

☐ No

☐ I don't know

31. If you selected 'Yes' in Q30, Please indicate briefly, what it consists of. Add a link to further information that would be relevant. Additionally, you may provide suggestions to share with teachers and trainers or policy makers from other countries to ensure continuity of TVET provision in this period of the COVID-19 pandemic.

.....

32. Is there a policy measure to encourage training and lifelong learning promoted and supported by your organization in response to the crisis?

☐ Yes

☐ No

☐ I don't know

33. If you selected 'Yes' in Q32, Please indicate briefly, what it consists of. Add a link to further information if there is one.

.....

34. Are there measures or services put into place to raise awareness about existing learning solutions and to support individuals in choosing and using them autonomously?

☐ Yes

☐ No

☐ I don't know

35. If you selected 'Yes' in Q34, Please indicate briefly, what it consists of. Add a link to further information if there is one.

.....

36. Is there technical support to help enterprises make use of online and/or offline distance learning to support and encourage learning of employees in the context of the current crisis?

- ☐ Yes, support is provided to all types of enterprises
- ☐ Yes, only targeting Micro and Small and Medium-sized Enterprises
- ☐ No
- ☐ I don't know

37. If you selected 'Yes' in Q36, Please indicate briefly, what it consists of. Add a link to further information if there is one.

.....

38. Which additional policy measures would you propose to implement to support learning during the COVID-19 Pandemic?

.....

39. The information from the survey will be compiled and shared with other countries and organizations. Would you agree to share the suggestions and good practices you provided in the survey with others?

- ☐ Yes
- ☐ No

40. Other comments

.....

.....

.....

The report is based on the results of an interagency survey on technical and vocational education and training (TVET) and skills development in the time of COVID-19. The online survey, which was targeted at TVET providers, policymakers and social partners, was implemented by the International Labour Organization (ILO) in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank over the period from 5 April to 15 May 2020. The survey captured the main challenges faced by TVET institutions during this crisis and brought to light innovations in teaching and learning. The report will help all those concerned to address current and future crises in their delivery of TVET and to manage the learning and training process effectively and to a high standard manner. Lessons may also be drawn for the post-crisis period, to strengthen the resilience and responsiveness of TVET systems and to inform broader reform efforts.

ilo.org

International Labour Organization
Route des Morillons 4
1211 Geneva 22
Switzerland

ISBN: 978-92-2-033117-0