Implications of the COVID-19 pandemic for **Vocational Education and Training**



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Acknowledgements

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Editorial

The COVID-19 pandemic has disrupted education, like most aspects of our lives. It has exposed the inadequacies in our education systems, and created new conditions to which, it became quickly clear, education systems are poorly adapted. Although, these inadequacies are magnified in times of crisis, it promises the real possibility that we do not have to return to the status quo when things return to "normal". It will be the nature of our collective and systemic responses to the disruptions that will determine how we are affected by them. Drawing the right insights from the crisis is therefore key.

In an unprecedented education crisis like this, it is difficult to gain insights from the past. However, it can help to look outwards to how other education systems are responding to similar challenges. To support this, the OECD has collected comparative education statistics to track developments throughout the pandemic through a series of Special Surveys and issued a series of reports and policy briefs. The most recent of these reports examined the state of school education one year into the pandemic, comparing losses in instructional time and how school systems had tried to compensate for these losses. This latest report looks at the impact of the pandemic on vocational education and training, a part of the education system that has faced particular challenges.

For a start, digital learning environments tend to be much better suited for academic learning than for practice-oriented learning. So while digital solutions could substitute for the more theoretical components of vocational curricula, they were much less suited for the more practice-oriented components of vocational education, which tend to be the main value and asset of vocational education and training. Some countries responded to this by giving vocational education priority when reopening educational institutions. Nonetheless, the loss of instructional time was substantial, and in some countries virtually an entire year of instruction was lost in 2020. Many countries adopted hybrid models in vocational education, offering in-person classes for practice-oriented components of the curricula and remote education for the remaining parts. Nevertheless, because of the limitations of distance learning for practice-oriented training, distance learning is perceived to be of lower validity in vocational than in general upper-secondary education. To make up for lost instruction time and lower access to practice-oriented training, various countries have put in place remedial activities for students in vocational programmes, however, this was the case only in around half of the countries analysed.

More worryingly, key challenges are likely to remain even when educational institutions reopen. As previous economic recessions have shown, a reduction in economic activity can affect apprenticeship places more deeply than regular jobs. The current crisis might entail an even larger reduction in the offer of work-based learning opportunities than past recessions, not just because of the uncertainty around subsequent waves of the pandemic, but also because digitalisation and changes in workplace organisation that were introduced during the pandemic may stay. For example, it has been estimated that the offer of apprenticeships and traineeship opportunities in Australia will be reduced by 30% over two years. The COVID-19 crisis has hit certain industries and occupations harder than others. This has a significant impact on the diversity of work-based learning opportunities on offer to students. Countries have been supporting students in finding work-based learning opportunities and employers to continue to provide training through various measures, including financial incentives for employers. Nonetheless, recent data on participation in work-based learning show significant declines in several countries. For example, evidence from Slovenia show that 22% of last year students in upper-secondary vocational programmes had no

access to work-based learning in the first half of the school year 2020/21.

Shortages of work-based learning opportunities could prevent some of the current students from graduating if it means they do not acquire the required practical skills. Such limited opportunities for work-based learning could also have an impact on enrolment in vocational programmes if prospective students no longer consider such programmes due to the difficulty of finding work-based learning opportunities. The loss of trained professionals for certain industries and occupations due to the crisis could exacerbate already existing or expected shortages and potentially slow the recovery process from the crisis. Reduced access to high-quality vocational education could also hamper school-to-work transitions and increase the risk of youth being not in education, employment or training.

These issues require urgent attention. OECD's international comparisons consistently show that high-quality vocational education is the cornerstone of effective youth transitions into the labour market and, if anything, the pandemic has revealed how much the jobs for which vocational education and training prepare are the backbone of our economies. Vocational education and training can play a key role in the recovery from the COVID-19 crisis, by equipping students with the skills the labour market needs and providing adults with relevant up-skilling and re-skilling opportunities. Responsive and flexible systems of vocational education are crucial to make sure that the offer and content of programmes is relevant and accessible.

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Closures of VET institutions and distance learning

Many upper-secondary VET institutions were closed temporarily, although some countries put in place specific measures to continue practice-oriented learning

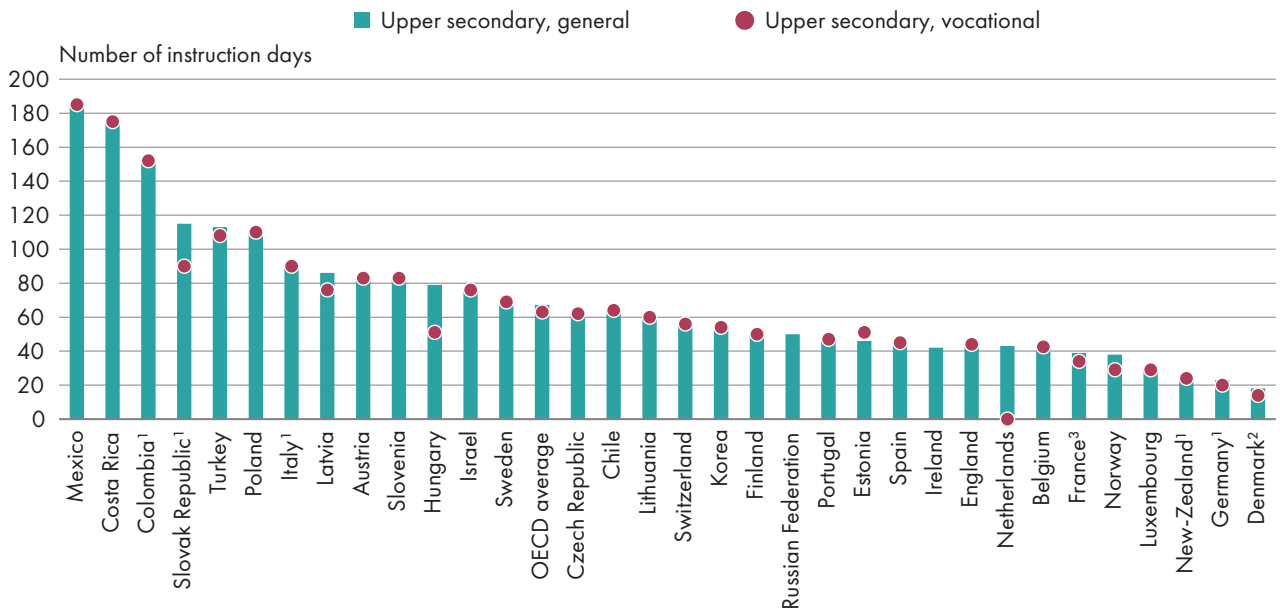
The COVID-19 pandemic affected education systems around the world. All OECD countries resorted to closures of education institutions at different points during the pandemic. This was the case for education institutions at all education levels, including institutions providing upper-secondary vocational education and training (VET). The Netherlands is a noteworthy exception, where VET was never fully closed, while general upper-secondary education was closed for just over 40 days in 2020. In other countries, the duration of full closures of VET institutions in 2020 ranges from around 20 days in Denmark, Germany and New Zealand and around 30 days in France, Luxembourg and Norway, to just over 100 days in Turkey and Poland and more than 150 days in Colombia, Costa Rica and Mexico (Figure 1).

In two thirds of countries, the number of days of closures in 2020 is the same for vocational and general upper-secondary education. However, in the remaining countries, vocational education had fewer days of full closure than general upper-secondary education, although differences are small in many cases. The largest differences can be observed in Hungary and the Slovak Republic, where VET institutions were closed for 25 and 23 days less, respectively, than general upper-secondary education. Also in Latvia and Norway full closures in VET were 10 and 9 days, respectively, shorter than in general education.

Several countries indeed allowed for a partial re-opening for certain VET students or specific elements of VET curricula. For example, Denmark introduced a gradual re-opening during the first period of national closedown for some VET students, including students about to finish their programme. In the Netherlands, upper-secondary VET institutions were (partly) open for vulnerable students, exams and certain practical courses - although with differences per region depending on regional arrangements on public transport and the size of school buildings. In Latvia, the Cabinet Order Regarding Declaration of the Emergency Situation allowed in the first half of 2021 to deliver the practice-oriented part of VET programmes in person, if it could not be carried out remotely. Likewise, in Poland it was possible at certain times during the pandemic to deliver the practice-oriented parts of VET programmes in person, while schools were fully closed for general upper-secondary education programmes. In upper-secondary education in Slovenia, only VET students who could not acquire adequate practical knowledge and skills in their fields of study returned to schools in person after their re-opening in 2020, alongside general education students in final grades, those who needed additional learning support and those who experienced difficulties with learning at home. In England (United Kingdom), exceptions to closures of education institutions were made at the beginning of 2021 for VET students who had their assessments in January and February. In Sweden, some practical elements of VET curricula could be performed in person even though schools were partially closed. This includes, for example, practical elements in courses that were essential for the student to be able to graduate and diploma projects.

Figure 1 • One third of countries had shorter closures in upper-secondary VET than in general education

Number of instruction days (excluding school holidays, public holidays and weekends) where upper-secondary education institutions were fully closed in 2020, VET vs. general programmes



1. Most typical number of instruction days;
2. Minimum number of instruction days.
3. Including only upper secondary vocational education preparing to Baccalauréat professionnel or to an equivalent diploma.

Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

Distance learning was widely used, but had its limitations in VET

During full and partial closures of education institutions, VET providers made ample use of distance-learning solutions, as did schools in general education. As Figure 2 shows, all countries made use of online platforms in upper-secondary VET in 2020 and/or 2021, and between 70% and 80% of countries used take-home packages, television and mobile phones for teaching and learning during the pandemic. Around one third of countries used radio and other forms of distance-learning solutions. Many countries provided support for vulnerable students to ensure that they could have access to remote learning. In Hungary, for example, targeted support for VET students from vulnerable groups was provided in the form of access to devices, such as laptops and tablets, for learning.

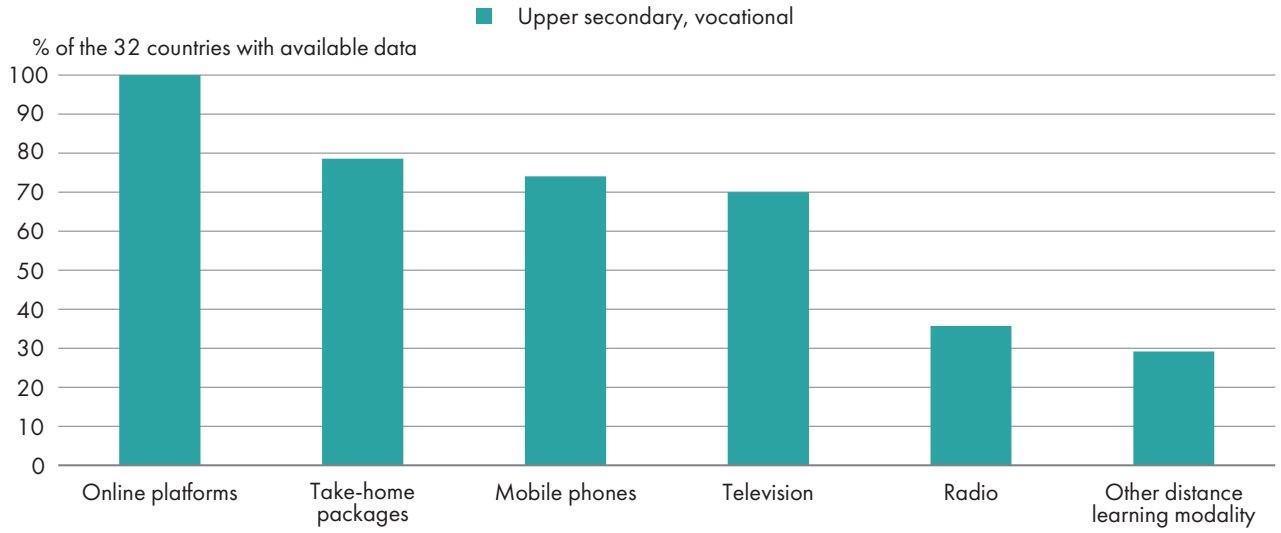
However, while these solutions can work effectively for the theoretical or academic components of VET curricula, they are often less suited for more practice-oriented components. This is one of the main reasons for the prioritised (partial) re-opening of VET institutions. Many countries applied hybrid models in VET, offering in-person classes for practice-oriented components of the curricula and remote education for the remaining parts. This was the case, for example, in Poland, where during the restriction period, all theoretical classes in VET programmes were conducted with the use of distance-learning techniques, but practical classes could take place in person according to the decision of the school head.

Because of the limitations of distance learning for practice-oriented training, countries report a lower perceived validity of distance learning in vocational than in general upper-secondary education. While only one country reported that distance learning was only valuable to some extent in general upper-secondary education, this was the case for four countries in VET (Figure 3). Nonetheless, the large majority of countries considered distance learning a valid form of delivery to account for official instruction days also in VET.

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Figure 2 • VET made ample use of distance learning solutions

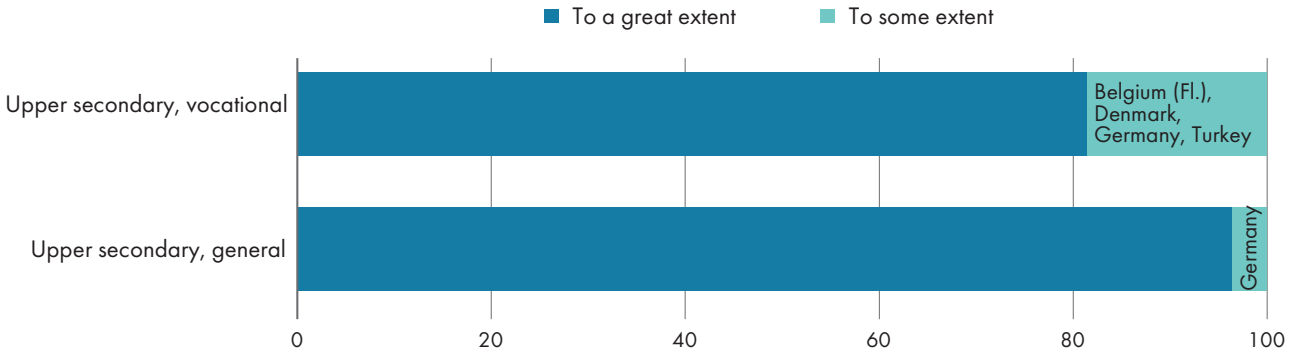
Distance-learning solutions offered in participating countries during 2020 and/or 2021, VET (% of countries)



Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

Figure 3 • Distance learning is perceived as being less suitable for VET

Perceived validity of distance learning in upper secondary education (VET vs general), % of countries



Note: This figure is based on the 28 countries for which data on upper secondary general education are available and on the 27 countries for which the same data are available for upper secondary vocational education.
Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

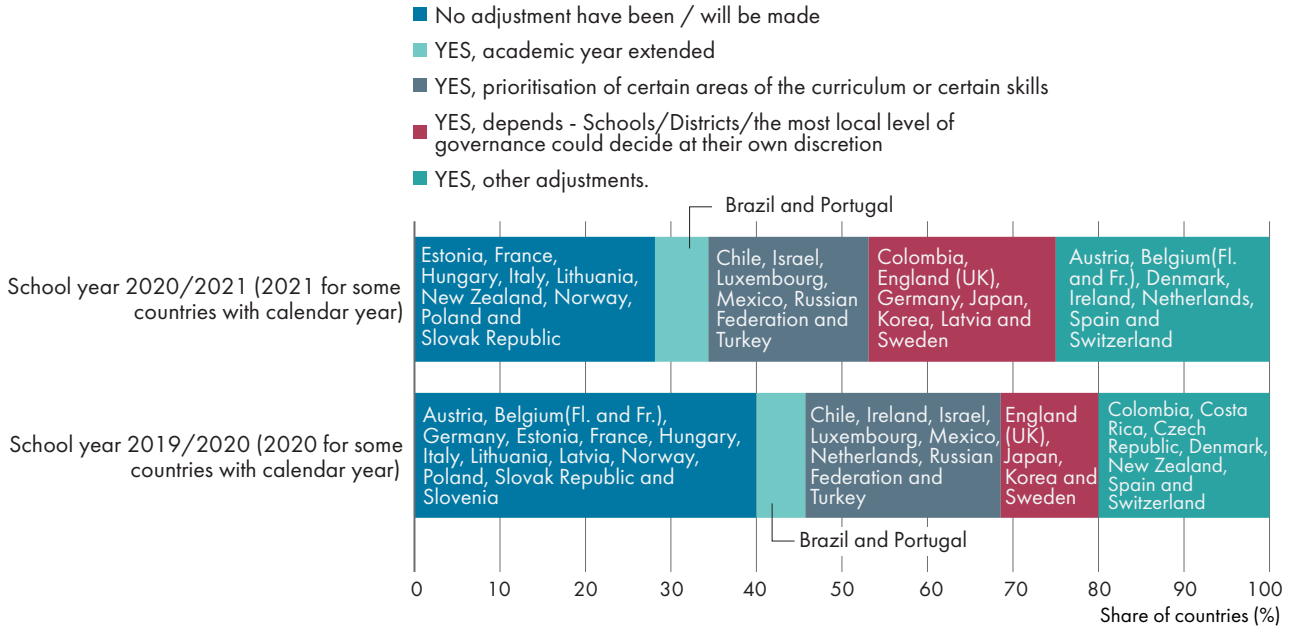
Emerging advanced technologies could play an important role in ensuring the continuity of practical learning in VET. The adoption of new technologies, such as virtual reality, augmented reality and simulators, can facilitate the delivery of practical learning and can be integrated into online learning platforms and in face-to-face settings to develop key competences for learners of all ages. Such technologies can therefore help increase the under-developed distance learning opportunities in VET. In the United States, software developers in education technology (EdTech) are being encouraged to collaborate with schools, including VET institutions, and the private sector to develop applications for school education. The United States Department for Education established the Small Business Innovation Research (SBIR) programme to enable small businesses to have access to funding so they can explore their potential and commercialise their technological solutions. The SBIR programme provides grants of up to USD 1.7 million to develop and evaluate commercially viable education technology products to improve student learning and teacher instruction. (OECD, 2021[1])

Changes to curricula and the organisation of the academic year were introduced in upper secondary education

Because of the often extended periods of closures of VET institutions, various countries introduced changes to the organisation of the academic year and/or their curricula. In around 60% of countries such changes were introduced in the year 2019/2020, and this rose to over 70% in 2020/2021. Only Brazil and Portugal extended the academic year, and they did so in both years. Prioritisation of certain areas of the curriculum was applied in eight countries in 2019/2020 and that strategy was maintained in the next year in six of them (Figure 4). For example, in Luxembourg study programs for secondary final exams were reduced by 15% for the 2021 exam session, and in VET priority was given to the job-related subjects. In various countries, the decision to implement such measures was left at the discretion of lower levels of governance (e.g. local government or education institutions). Many of the changes that were implemented were related to the difficulty of organising work-based learning and often these changes also translated into adjustments to graduation criteria (see below).

Figure 4 • Many countries introduced changes in the organisation of the academic year and in curricula

Adjustments to the school calendar dates and curricula in upper-secondary VET due to COVID-19 in the previous and current school year (% of countries)



Note: This figure is based on the 35 countries for which data for school year 2019/2020 are available and on the 32 countries for which the same data are available for school year 2020/2021.
Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

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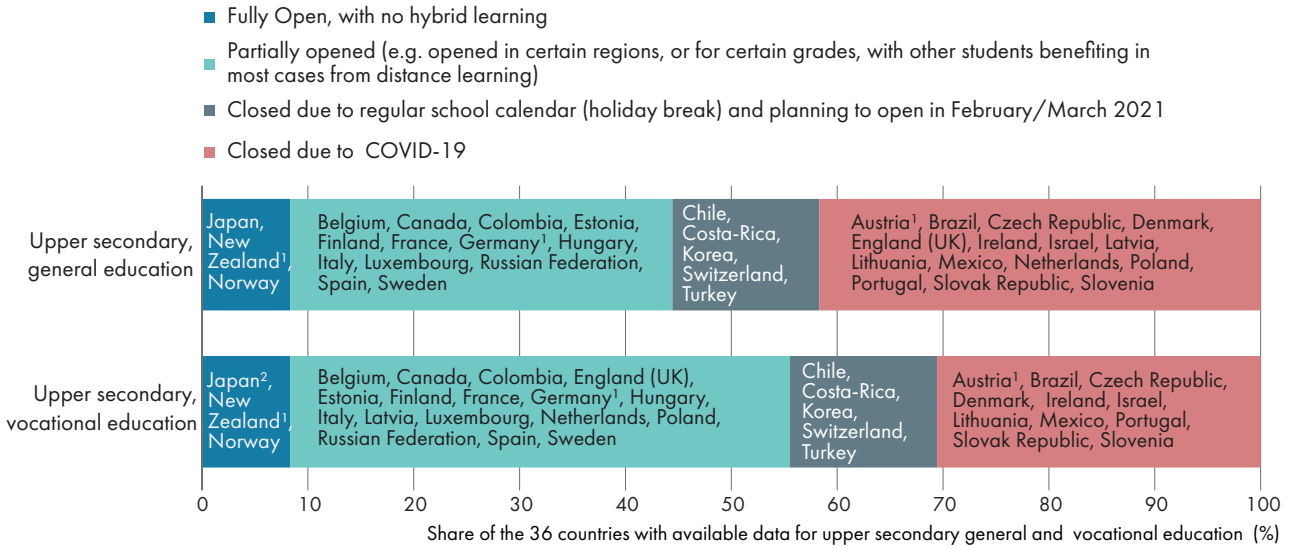
School re-opening, remedial activities and assessments

Many VET institutions remain affected by partial or full closures

Partial and full closures of education institutions have remained in place in many OECD countries also in 2021. For upper-secondary VET, 11 out of 36 countries participating in the OECD/UIS/UNESCO/UNICEF/WB Special Survey reported that education institutions were fully closed due to the pandemic on 1 February 2021. A further 17 countries reported partial closures. Only three countries reported that their upper-secondary VET institutions were fully open. The remaining five countries had school holidays on 1 February but planned to re-open, fully or partially, after those holidays (Figure 5). This is very much in line with the findings for general education, albeit that a few countries have moved into partial opening for VET while remaining fully closed for general education (i.e. England (United Kingdom), Latvia, the Netherlands and Poland). This mostly reflects countries opening education institutions for the practice-oriented components of VET curricula, as discussed above.

Figure 5 • Full or partial closures of upper secondary VET institutions remained the norm in early 2021

Status of education institution closure as of 1 February 2021, VET vs general education (% of countries)



1. School were closed as of 1 February in some sub-national regions in these countries due to regular school calendar.
2. Excluding College of technology (upper secondary vocational education).

Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

When upper-secondary VET institutions re-opened, this was often under various restrictions or with certain adjustments

When VET institutions fully or partially re-opened, this was generally under additional health and safety restrictions or regulations. Various strategies were put in place to guarantee a safe return to school. For upper-secondary VET, 81% of countries reported having made adjustments to school and/or classroom physical arrangements, while in 73% of countries the return to school for VET students happened partially, with some parts of the curricula continuing to be delivered remotely (Figure 6). Just over half of countries also reduced or suspended extra-curricular activities in VET, and in around half of the countries the return was phased (e.g. allowing certain age groups to return to school sooner than others). Measures in VET were very similar as in general upper-secondary education, with the exception that countries were more likely to have a hybrid return in VET than in general education. This confirms the partial re-opening for practice-oriented components of VET curricula discussed above.

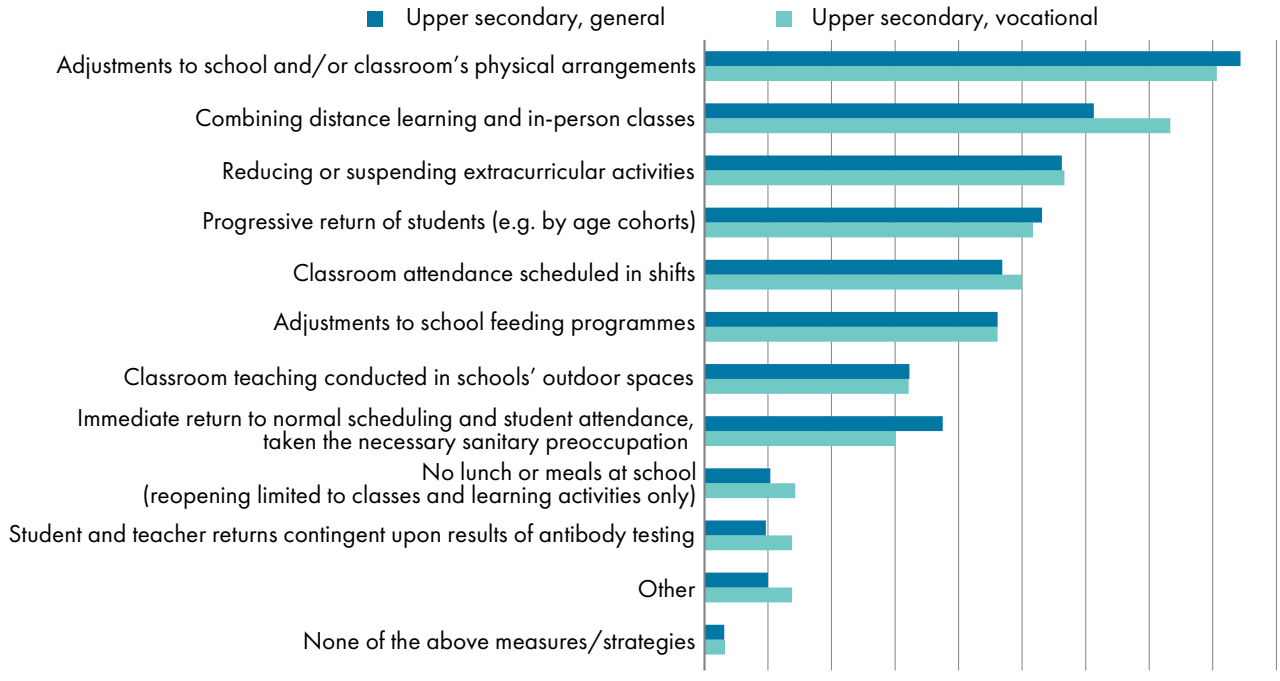
In Poland, the re-opening for VET was limited to at most 10 hours per week, in groups that allow social distancing and only on selected days of the week. In the Netherlands, 1.5m distancing is to be maintained at all times in schools, which means that the partial re-opening in VET could only happen if the size of the school buildings allowed for it.

Remedial activities for VET students were put in place in a few countries

Closures of education institutions in upper-secondary VET may have led to significant learning gaps, especially since distance learning had its limitations for important parts of VET curricula. In spite of the likely important impact on VET students, only 15 countries (out of the 28 countries responding to this question in the survey) report to have put in place remedial measures with a special focus on students in programmes with a vocational orientation (Table 1).

Figure 6 • Different strategies were adopted for a safe return to upper secondary VET institutions

Strategies for the re-opening of upper-secondary education institutions after the first period of closures in 2020, VET vs general education (% of countries)



Note: This figure is based on the 32 countries for which data on upper secondary general education are available and on the 31 countries for which the same data are available for upper secondary vocational education.
Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

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Table 1 • Only relatively few countries introduced remedial activities for upper secondary VET students

Countries introducing remedial measures with a special focus on students in programmes with a vocational orientation

Yes		No	
Number of countries	List of countries	Number of countries	List of countries
15	Austria, Belgium, Estonia, Finland, France, Hungary, Israel, Japan 1, Korea, Lithuania, the Netherlands, New Zealand, Poland, Portugal, Spain	13	Canada, Chile, Colombia, England (United Kingdom), Germany, Ireland, Latvia, Luxembourg, Norway, Russian Federation, Slovak Republic, Slovenia, Turkey

1. Excluding College of technology (upper secondary vocational education).

Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

In Poland, special vocational examination preparation classes were offered on school premises for students in upper-secondary VET. In Latvia, since February 2021, individual face-to-face consultations have been provided in schools for certain groups of students, including students in programmes with vocational orientation, as well as students in general programmes who are at risk of drop out or of grade repetition, and in grades with a national examination at the end of the school year. The Netherlands allocated a budget of EUR 68 million for subsidies for VET institutions to put in place remedial measures for students in a vulnerable position and for student with a backlog in practice-oriented training. Korea has provided learning consultations in and outside of schools for each VET student based on their individual academic performance and career plan after schools re-open. In Finland, VET providers introduced various support measures and the Ministry of Education and Culture allocated additional funding to tackle the problems and learning loss caused by COVID-19 (Goman et al., 2021[2]).

An important first step in deciding on the need for remedial activities and the target population and content of such activities is to assess learning gaps. Such assessments can help understand if there are any learning gaps and the size of these gaps (if any), but also identify the students who were impacted most strongly, as well as the programmes, fields of study or subjects where learning gaps are most sizeable. In nine countries, these learning gaps have been assessed among VET students in a standardised way and a further three countries had plans to do so at the time of the survey. In 20 countries this type of assessment was carried out at the classroom level, and 7 out of those countries conducted both standardised and classroom-level assessments. However, in eleven countries no assessments of learning gaps were carried out and there were no plans to do so in the near future (Table 2). Out of those countries who did not assess learning gaps in VET, two thirds did not implement remedial measures specifically for students in VET programmes

VET assessments or examinations in upper secondary education needed to be adjusted in many countries

Assessments in VET often involve skills demonstrations, which might have been particularly difficult to organise during the pandemic, also after schools re-opened under strict health and safety regulations. Therefore, some countries have made changes in the way they organised their VET exams. Moreover, as not all VET students had access to work-based learning and other forms of practice-oriented learning, certain countries changed graduation criteria to take this into account. Two thirds of countries responding to the questionnaire report to have made adjustments to graduation criteria in VET at the end of school year 2019/2020, and almost 60% of countries for the school year 2020/2021. This is the same as for general upper-secondary education. In all countries that have national examinations for VET, changes were made to these examinations due to the pandemic in school year 2019/2020. In almost 90% of countries, additional health and safety measures were introduced for these national VET examinations. In three quarters of countries, national VET examinations were postponed or rescheduled. In just over 40% of countries,

alternative forms of assessment were introduced (Figure 7). These changes were more common in VET than in general upper-secondary education, reflecting the challenges in organising practice-oriented assessments in times of school closures and strict health and safety regulations.

Table 2 • Only relatively few countries introduced remedial activities for upper secondary VET students

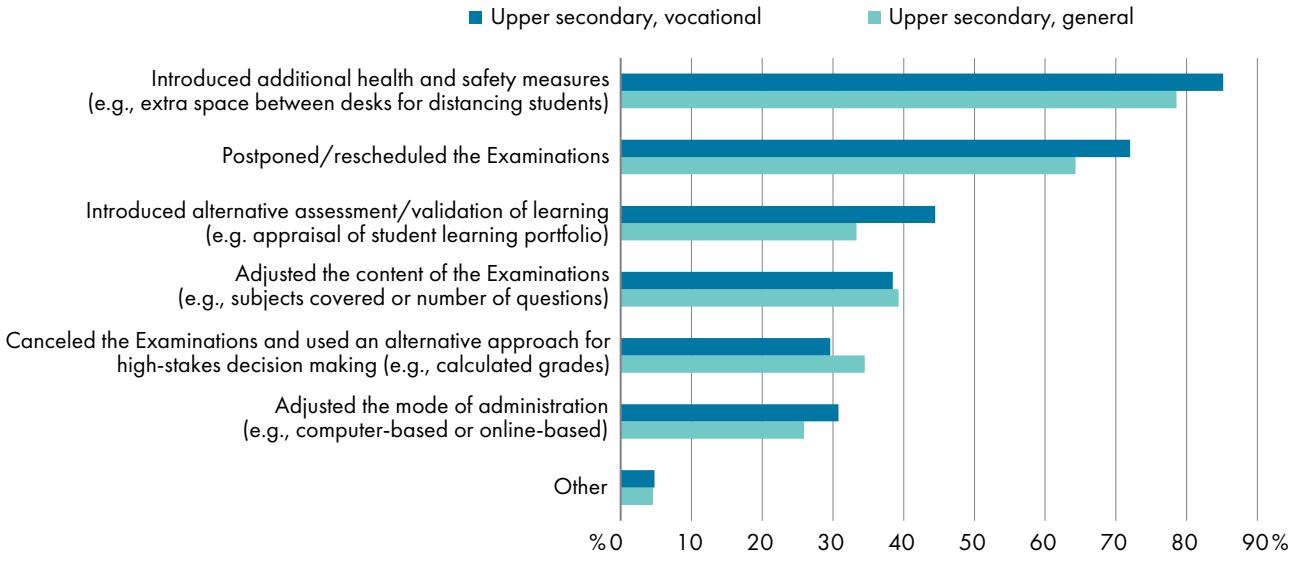
Countries introducing remedial measures with a special focus on students in programmes with a vocational orientation

	Number of countries	List of countries
Students were assessed in a standardised way (at the sub-national or national level)	9	Austria, Czech Republic, France, Italy, Ireland, Latvia, Mexico, Netherlands and Poland
Students were not yet assessed but there is a plan to assess them in a standardised way	3	Belgium (Flemish), Colombia and Turkey
Students were assessed at the classroom level (formative assessment by teachers)	20	Austria, Belgium (Flemish), Belgium (French), Chile, Costa Rica, Czech republic, Denmark, Estonia, France, Germany, Ireland, Japan[1], Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Spain and Switzerland
There is no plan to assess students in a standardised way	11	Chile, England (UK), Finland, Hungary, Korea, Lithuania, Luxembourg, New Zeeland, Slovak Republic, Spain, and Sweden

1. Excluding College of technology (upper secondary vocational education).
Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

Figure 7 • National examinations in VET were adjusted

Changes to 2019-20 national examinations in upper-secondary education due to the pandemic (% of countries, VET versus general education)



Note: This figure is based on the 30 countries for which data on upper secondary general education are available and on the 27 countries for which the same data are available for upper secondary vocational education.
Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

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In spite of these challenges, some countries prioritised the organisation of vocational assessments over those in general education. This is the case, for example, in Norway where most exams were cancelled in the school years 2019/2020 and 2020/2021, but some exams in subjects in vocational education were still held. Moreover, Norway prioritised examinations for apprentices over examinations for experience-based candidates.

Some countries provided alternatives for assessments that normally take place in the workplace but could not due to business closures or restrictive health and safety measures. In Finland, VET assessments normally include a demonstration of the professional skills and competence in authentic work situations and processes. In light of the COVID-19 pandemic, the Act on Vocational Education and Training has been temporarily amended to allow students to demonstrate their professional skills and competence by performing other practical tasks that are as similar as possible to authentic work situations and processes. In addition, more flexibility was introduced in other types of competence assessment that can supplement the demonstration of skills and competence. The opposite holds in Switzerland, where work-based assessment were much less of a problem during the pandemic than the school-based components. Therefore, only the practice-oriented examinations related to work-based learning took place, and there were no examinations for school-based general and vocational learning.

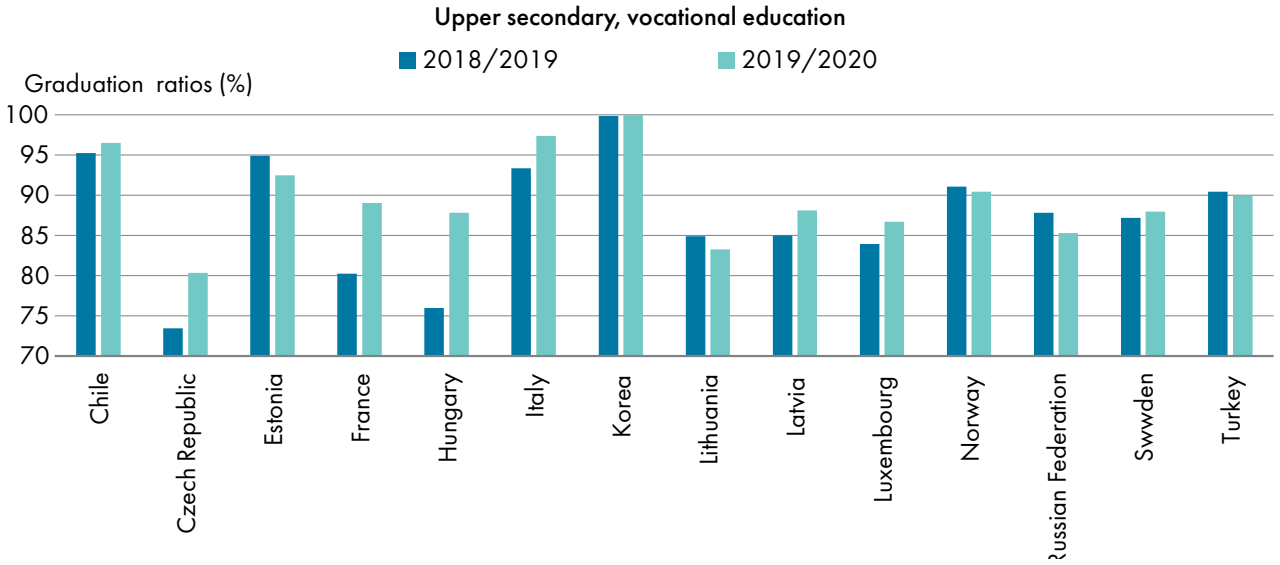
Some countries also made changes in the examination committees in VET. For example, in Norway only one examiner was required instead of two in the school years 2019/2020 and 2020/2021. Likewise, in Slovenia only two members instead of the usual three can carry sit on the oral exam committees for the vocational Matura. Moreover, an examiner may exceptionally (due to quarantine) participate online in the examination.

Various countries made changes to graduation or progression requirements. In Slovenia, for example, VET students are normally required to carry out work-based learning as part of their programme to be able to obtain their qualification. However, for VET students who could not carry out work-based learning in the school years 2019/2020 and 2020/2021, the work-based component is considered as having been completed if the student attained positive grades in all vocational subjects in a given year. Nonetheless, VET teachers were encouraged to assess practical skills of students using alternative approaches, such as problem-based learning. In Poland, in stage II sectoral vocational schools the requirement to take the vocational exam as a condition for obtaining promotion to a subsequent semester within the programme or a condition for graduation has been waived in the 2020/2021 school year. In the Netherlands, graduation criteria have been adapted in vocational education for Dutch language, mathematics and chosen learning objectives (minors). Moreover, exceptionally, students who started their level I vocational education in February 2020 did not receive a binding study advice after their first year (postponed to the end of the second year). This binding study advice consists in a recommendation issued by the examination board regarding whether or not a student will be permitted to continue their studies in the programme in which they are enrolled.

In some countries, changes to the graduation requirements or the organisation of assessments had an impact on graduation rates. While only relatively few countries were able to report data on this, Figure 8 shows that in the Czech Republic, France and Hungary graduation ratios in VET were much higher in 2020 than in 2019. France is one of the countries in which national VET examinations were cancelled in 2019/2020. However, even though the final examinations were cancelled, it was possible to assess VET students' achievements using the marks from continuous assessment. In Hungary, no oral VET examinations were organised, only written tests, and VET students who had not completed their full work-based learning element could still sit the exam (provided they have completed at least 60% of the work-based component) (Cedefop, 2020[2]). In the Czech Republic, changes were made to the evaluation rules set out in the school regulations in the second half of 2019/20, stipulating that students in the final year of upper-secondary schools cannot be assessed with the grade 'failed' or 'not evaluated' due to the effects of force majeure, and that student evaluations should not be worse relative to their usual results (Cedefop, 2020[2]).

Figure 8 • A few countries had higher VET graduation rates than in previous years

Graduation ratios for students in the last year of upper-secondary VET (2019 and 2020)



Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

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Work-based learning

Work-based learning is an important part of many VET programmes in OECD countries. Across OECD countries, 34% of upper-secondary VET students are enrolled in programmes that combine school- and work-based learning, including apprenticeship programmes (OECD, 2020[4]). In Germany and Switzerland, around 90% of upper-secondary students are in such programmes, and in Denmark, Hungary, Ireland, Latvia, and the Netherlands all students are so.[1] The importance of the work-based component in the curriculum varies between countries, and can go up to 80% or even 90% of the full programme duration in countries like Austria, Finland and Switzerland.

The COVID-19 crisis is making it difficult for VET students to complete work-based learning activities. As previous economic recessions have shown, a reduction in economic activity not only affects regular jobs but also apprenticeship places, mostly due to firms trying to cut costs (Brunello, 2009[5]). Beyond the immediate need to cut costs, evidence from Germany shows that firms also base their decision to offer apprenticeship opportunities on expectations about the future business cycle, especially since contractual training agreements are difficult to be terminated prematurely (Muehlemann, Pfeifer and Witte, 2020[7]). The current crisis might even bring about a larger reduction in the offer of work-based learning opportunities, including apprenticeships, given the uncertainty regarding possible subsequent waves of the pandemic and ensuing lockdowns, but also in light of the difficulty of organising training in workplaces that are faced with strict health and safety regulations. Early estimates projected large cuts in the apprenticeship offer over an extended period in some countries. For example, it has been estimated that the offer of apprenticeships and traineeship opportunities in Australia will be reduced by 30% over two years. This represents around 130 000 fewer places available from the start of the pandemic until mid-2023 (Hurley, 2020[6]). Recent data show that apprenticeship and traineeship commencements were 18.8% lower in Australia in the twelve months ending 30 September 2020 than in the year before, and the fall was larger in the non-trade than in trade occupations (NCVER, 2021[7]). In Germany, the number of apprenticeship contracts concluded dropped by 9.4% in 2020 compared to the previous year (Statistisches Bundesamt, 2021). Likewise, recent evidence from the Centre for Vocational Education in Slovenia show that 22% of last year students in upper-secondary VET programmes had no access to work-based learning in the first half of the school year 2020/21. Nonetheless, not all countries experienced a drop in work-based learning opportunities. This was the case in Switzerland, for example, where participation remained stable, and the apprenticeship market is generally less affected by cyclical fluctuations than in many other countries (OECD Berlin Centre, 2021[8]). In France, the number of apprenticeship contracts concluded in 2020 was markedly higher than in 2019, partially reflecting the new incentives introduced during the pandemic (see below) (Ministère du Travail, de l'Emploi et de l'Insertion, 2021[9]).

The COVID-19 crisis has hit certain industries and occupations harder than others (OECD, 2020[8]). This has a significant impact on the diversity of work-based learning opportunities on offer to VET students. Shortages of work-based learning opportunities could prevent some of the current VET students from graduating if it means they do not acquire the required practical skills or could require countries to change graduation criteria (as discussed above). Such shortages could also have an impact on VET enrolment rates if prospective students no longer consider VET programmes due to the difficulty of finding work-based learning opportunities (OECD, 2021[1]). The loss of trained professionals for certain industries and occupations due to the crisis could exacerbate already existing or expected shortages and potentially slow the recovery process from the crisis

as a consequence. Reduced access to high-quality VET could also hamper school-to-work transitions and increase the risk of youth being not in education, employment or training (NEET).

Countries changed the requirements for and organisation of work-based learning

In response to the reduced availability of work-based learning opportunities for VET students, governments and other key stakeholders in the VET system in some countries adjusted requirements and/or the design of work-based learning to account for the fact that fewer work-based learning opportunities were available. By bringing in more flexibility, countries tried to ensure that VET students could still develop their professional skills through alternative forms of learning and/or access work-based learning at later stages.

Various countries temporarily introduced more flexibility in the organisation of work-based learning in VET programmes. For example, in France, the time to find an apprenticeship contract for youth enrolled in apprentice training centres (*centre de formation d'apprentis*) was extended from at most three months to six months for those students starting their training between August and December 2020 (Ministère du Travail, de l'Emploi et de l'Insertion, 2020[12]). Likewise, in Flanders (Belgium) students in the dual learning system were allowed a longer time than the usual 20 days to find a possible employer where learning can occur safely in the workplace. This was also the case in Luxembourg, where the deadline for signing an apprenticeship contract was postponed by two months. Also in Estonia, schools changed the organisation of VET programmes based on the needs of companies and students, for example, postponing practice-oriented parts of the curricula and organising parts that are more theoretical earlier.

Some countries also introduced temporary adjustments to the duration of the work-based learning component or the full VET programme. This was the case, for example, in France, where the number of weeks of training in a professional environment was reduced to take into account the health context and the first lockdown. Also in Chile, the minimum number of apprenticeship hours was reduced from 360 to 180. Another approach was taken in Estonia, where for some VET students (less than 5% of all VET students) the study time was extended, as they could not complete their work-based training within the nominal study time. In Germany, an extension of the training period can be exceptionally requested by the apprentice at the relevant Chamber, only if the extension is necessary to achieve the training objectives (Cedefop, 2020[14]).

Another form of flexibility has been the use of online learning or remote apprenticeships. In Chile, for example, amendments were made to the relevant decrees to recognise the hours performed in hybrid mode as work-based learning hours and to authorise remote supervision.

Finally, because of the difficulty to organise work-based learning and to ensure that this does not have an impact on the completion of VET programmes, some countries temporarily relaxed the requirement of work-based learning participation (as discussed above). This was the case, for example, in Poland where the obligation in certain VET programmes to require a minimum amount of practice-oriented training was discontinued.

Financial incentives for employers to provide work-based learning were put in place

To encourage and support employers in providing work-based learning opportunities, several countries introduced new financial incentives or scaled up existing ones for employers taking on apprentices or other students in work-based learning.

Even before the COVID-19 crisis, financial incentives were widely used to encourage employers to offer more placements (OECD, 2018[1]). Financial incentives may be offered to reward firms that recruit apprentices or students in other forms of work-based learning, in recognition of the fact that they shoulder a burden that would otherwise be carried by the state: the task of preparing young people for a career. This rationale may underpin incentives offered to all firms that take apprentices, regardless of the impact of the incentives on the provision of apprenticeship places. However, international experience suggests that financial incentives should be used with caution and carefully evaluated. Whether the use of financial incentives is desirable depends partly on the targeted policy objective.

Based on the responses from the "Youth and COVID" policy questionnaire, almost a quarter of OECD countries introduced new financial incentives for employers in response to the COVID-19 crisis and an additional 20% of countries scaled up

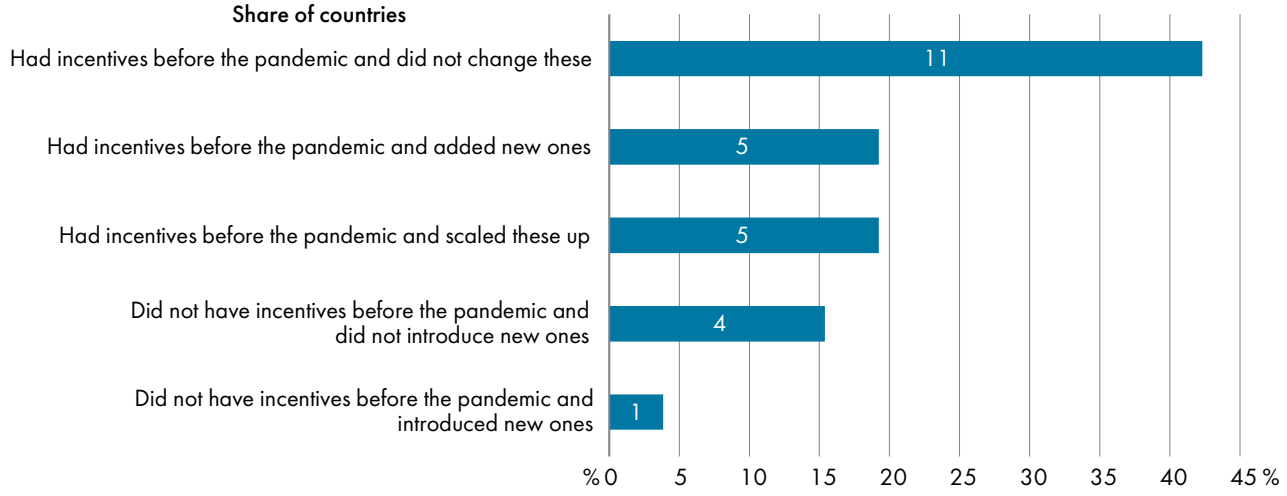
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existing incentives (Figure 9). New incentives were introduced in Australia, Austria, France, Germany, Ireland and Luxembourg. In Ireland, for example, the Apprenticeship Incentivisation Scheme (AIS) was introduced as part of the Government's stimulus programme in July 2020. This scheme provides a grant of EUR 3 000 per new apprentice registered between 1 March 2020 and 30 June 2021. In Australia, the AUD 2.8 billion Supporting Apprentices and Trainees wage subsidy, which was announced in March 2020 and extended and expanded in July 2020, is expected to help up to 90 000 employers to keep around 180 000 apprentices and trainees across the country in work and training. In Flanders (Belgium), Italy, Korea, Lithuania and Norway, existing incentives were made more generous or extended to a larger group of employers. In Lithuania, for example, the compensation of apprenticeship wages was raised from 40% to 70%. In Norway, all training enterprises received approximately EUR 70 extra in the already existing state grant per apprentice per month. In Korea, the financial incentives for companies to participate in the Work-based Learning Dual System was doubled (from KRW 200 000 to 400 000 a month per student).

In some countries these new or scaled up incentives have been specifically targeted towards small and medium-sized enterprises (SMEs). Even under normal circumstances, SMEs face more barriers to the provision of work-based learning than larger firms do, and the crisis has only exacerbated these differences. In Germany, for example, the new federal programme "Secure apprenticeships" provides subsidies to motivate SMEs that were particularly affected by the COVID-19 crisis to maintain or even increase their level of training, to avoid short-time working for trainees and to enable trainees from COVID-related insolvent companies to continue their training. As of March 2021, the scheme has been extended to 2021/2022 and will receive EUR 500 million in funding for the remainder of the year. The subsidy for companies that maintain their current level of training was also doubled from EUR 2 000 per apprentice to EUR 4 000 for this year. In Italy, employers taking on apprentices benefit from a reduced rate of employer contributions, and this was expanded in 2020 to a 100% exemption from contributions for firms employing less than 10 employees.

Figure 9 • Employers are encouraged to provide work-based learning through various financial incentives

Financial incentives for employers to provide work-based learning (% of countries)



Note: Based on responses from 26 OECD countries.
Source: OECD "Youth and COVID" policy questionnaire (February-May 2021)

Financial incentives to encourage firms to provide work-based learning opportunities can help, but they are likely insufficient. Firms also face non-financial barriers, such as a lack of skills and experience to train students effectively and/or capacity to deal with the associated administrative requirements. Such barriers need to be addresses as well, not only to support employers during the COVID-19 crisis but also to strengthen employer engagement in VET in the longer term. Moreover, financial incentives are not a sustainable solution for many countries in the longer term, especially when governments are facing severe

budget pressures due to the COVID-19 crisis. Finally, subsidies are often associated with deadweight loss, when they are used by employers who would have provided training opportunities even in the absence of the subsidy. Effective targeting of subsidies is key to avoiding such losses, but this might come at the cost of additional administrative complexities. In most countries the new or expanded financial incentives are still in use today, and it remains to be seen how countries will adjust these measures as the labour market recovers.

School-based alternatives were organised or expanded

To ensure that students continued to have access to opportunities to develop their professional skills in the absence of sufficient work-based learning opportunities, some countries provided school-based alternatives. While such alternatives can be important tools to ensure the continuity of professional skills development, they are unlikely to deliver the same benefits as learning in a real workplace.

In various countries, school-based safety net programs already existed and these were scaled up. This was the case, for example, in Austria, where since 2008 VET students who cannot be placed in a company-run apprenticeship have the guarantee that they will be enrolled in equivalent apprenticeship programmes in a supra-company training entity. The number of places in such programmes was increased during the COVID-19 crisis. In Norway, VET students who do not get an apprenticeship, have the right to education in school to complete vocational upper-secondary education. It is the county municipality's responsibility to provide students with this education, and the county municipalities received additional funding in 2021 to strengthen this form of education.

Other countries introduced new (temporary) safety net programmes during the crisis. In Luxembourg, VET students who did not manage to secure an apprenticeship place at the beginning of the school year 2020-21, were admitted to the National Vocational Training Centre (CNFPC) for practical training and assistance in finding an employer. In France, VET students who did not manage to find a work placement were given the opportunity in 2020 to start their practical training in an Apprentice training centre (*Centre de formation d'apprentis*) within a maximum duration of six months. In Spain, a 2020 Royal Decree allows regional governments to apply exceptional measures in those training programmes in which there is an insufficient number of companies providing workplace training as a consequence of the exceptional circumstances arising from the COVID-19 pandemic. One of these exceptional measures is that the work-based learning component can be replaced by a set of activities to be carried out in an environment as similar to the workplace as possible, or can be integrated into a project module, so that the objectives associated to work-based learning can be achieved.

In Switzerland, financial support was provided to cantons and professional associations under the "COVID-19 apprenticeship places" programme to cover the costs of actions to support the apprenticeship system, including the design of new forms of training (Task Force « Perspectives Apprentissage 2020 », 2020[16]). For example, initiatives to complement work-based learning in the hospitality sector within training centres received funding through this programme. Other elements of the programme include, for example, support to mentoring and coaching activities for young people to help them find apprenticeship opportunities, measures to obtain and create new apprenticeship positions, to fill apprenticeship positions as well as to avoid breaking apprenticeship contracts. The programme is part of a joint initiative of the Confederation, cantons and professional organisations that was set up to ensure that students could find apprenticeship opportunities during the pandemic and that employers could fill their need for apprentices and could continue to provide apprenticeship opportunities.

Finally, some countries provide school-based and work-based pathways for the same qualifications. This flexibility benefited students during the COVID-19 crisis, with student from the work-based track having the opportunity to move to a school-based track. In Finland, for example, VET students can complete their programmes in various learning environments, including work-based learning. A personal competence development plan is drawn up for students starting their education on how to achieve their objectives in the best possible way, in different learning environments. Work-based learning is one way to accumulate knowledge if it meets student's needs; it is not an end in itself. Due to the modular qualification structure, learning can be flexibly arranged in different learning environments.

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Supporting VET teachers

Remote teaching has been common in VET during the pandemic, although not all teachers were prepared for it

As discussed above, distance learning was widely used in VET, despite the challenges it posed for practice-oriented components of VET curricula. Around two thirds of countries responding to the OECD/UIS/UNESCO/UNICEF/WB Special Survey report that all teachers in upper-secondary VET were required to teach remotely/online during school closures in 2020. In the remaining countries at least 75% of VET teachers were teaching remotely.[2] This is very similar to what was observed for general upper-secondary education.

Many VET teachers had limited experience in remote teaching before the pandemic, and therefore had to start remote teaching with limited skills to do so effectively. A survey among VET providers around the world showed that only 30% of VET providers in Europe and Central Asia and in the Americas very often or regularly used online and/or distance learning before the COVID-19 pandemic (ILO, World Bank, UNESCO, 2021[2]). In Australia, only 19% of the 1 200 courses delivered in Technical and Further Education (TAFE) institutes had some form of digital delivery before the pandemic (TAFE Directors Australia, 2020[10]). Pre-pandemic evidence from the 2018 OECD Teaching and Learning International Survey (TALIS) showed that 26% of VET teachers in six OECD countries/regions did not feel able to support their students' learning through the use of digital technology (OECD, 2021[3]). Moreover, almost 50% of VET teachers in these six countries reported a moderate or high need for training in Information and Communication Technology (ICT) skills for teaching.

Data from the European Commission's SELFIE tool (Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies) collected on a voluntary basis in the period October 2018-December 2020 (Hippe, Pokropek and Costa, 2021[17]; European Commission, 2021[18]), confirm that a significant share of teachers do not feel confident in the use of digital technologies for teaching and learning. Around one in four VET teachers using the SELFIE tool in OECD countries do not feel confident to use digital technologies in classroom teaching, or to provide feedback to their students (OECD, 2021[12]). Confidence using technology is higher for young VET teachers. Around 82% of VET teachers aged 30 to 39 feel confident preparing lessons using digital technologies, and 76% of them feel confident using technology in class teaching. Those figures fall to 59% and 53%, respectively, for teachers over 60 (Figure 10).

Countries have put in place various measures to support teachers in remote teaching

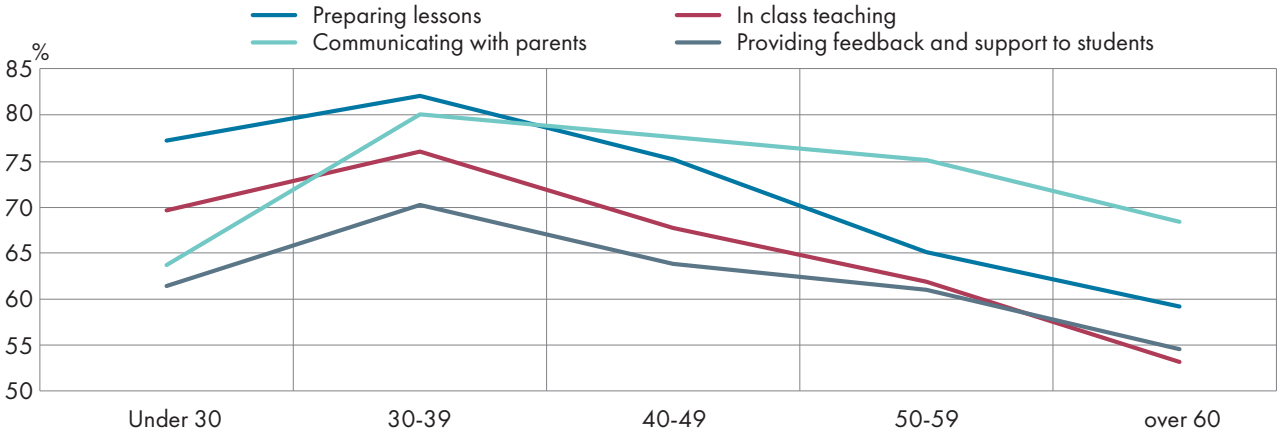
To support teachers in moving to a remote learning environment, many countries have put in place specific measures to support skills development, including new training programmes or financial support for training. All countries participating in the special survey -except one- supported VET teachers in developing their skills for remote or hybrid teaching. In over two thirds of countries, this was done by i) providing new self-learning tools; ii) building or expanding teacher networks; and iii) providing new training programmes. Moreover, almost 60% of countries provided additional funding to scale up existing training programmes (Figure 11).

In the Netherlands, different organisations combined their powers and created a website that VET teachers and VET institutions can use for support in the transition to remote learning. This adds to an already existing programme on digitalisation in VET, which focuses on themes such as data-driven education, support for teachers in the digital transition and educational logistics. In Korea, to support VET teachers in developing high-quality remote courses, a virtual training platform, Smart Training Education Platform (STEP), has been set up to enable learning providers to upload their course content, in addition to 300 existing courses already available. This has been supported by subsidies and quality assurance mechanisms (OECD, 2020[13]). In Australia, dedicated teams were put in place within Technical and Further Education institutes to help teachers move to online delivery (TAFE Directors Australia, 2020[10]). Areas of support included, content design for online delivery, accessing and using different technology platforms, management of the virtual classroom, etiquette and best practice digital delivery, and trouble shooting.

In only a limited number of countries, new or expanded training opportunities were accompanied with financial support to cover the cost of releasing teachers from teaching duties. This might have meant that teachers needed to take part in these training activities outside of working hours. Pre-pandemic TALIS data have shown that the biggest barrier to participation in professional development for VET teachers is conflicts with their work schedule (OECD, 2021[3]), and therefore a lack of financial support to allow teachers to take time off to participate in training may have limited their participation in new skills development opportunities. Moreover, another key barrier for VET teachers highlighted in the TALIS data is the lack of incentives to participate in training. The low share of countries that adapted their appraisal system to take better account of the increased use of remote or hybrid learning can therefore have limited VET teachers' appetite to participate in training to develop the skills needed for this new reality.

Figure 10 • Employers are encouraged to provide work-based learning through various financial incentives

Proportion of upper-secondary VET teachers who are (very) confident using digital technologies, by age (average from respondents in OECD countries)



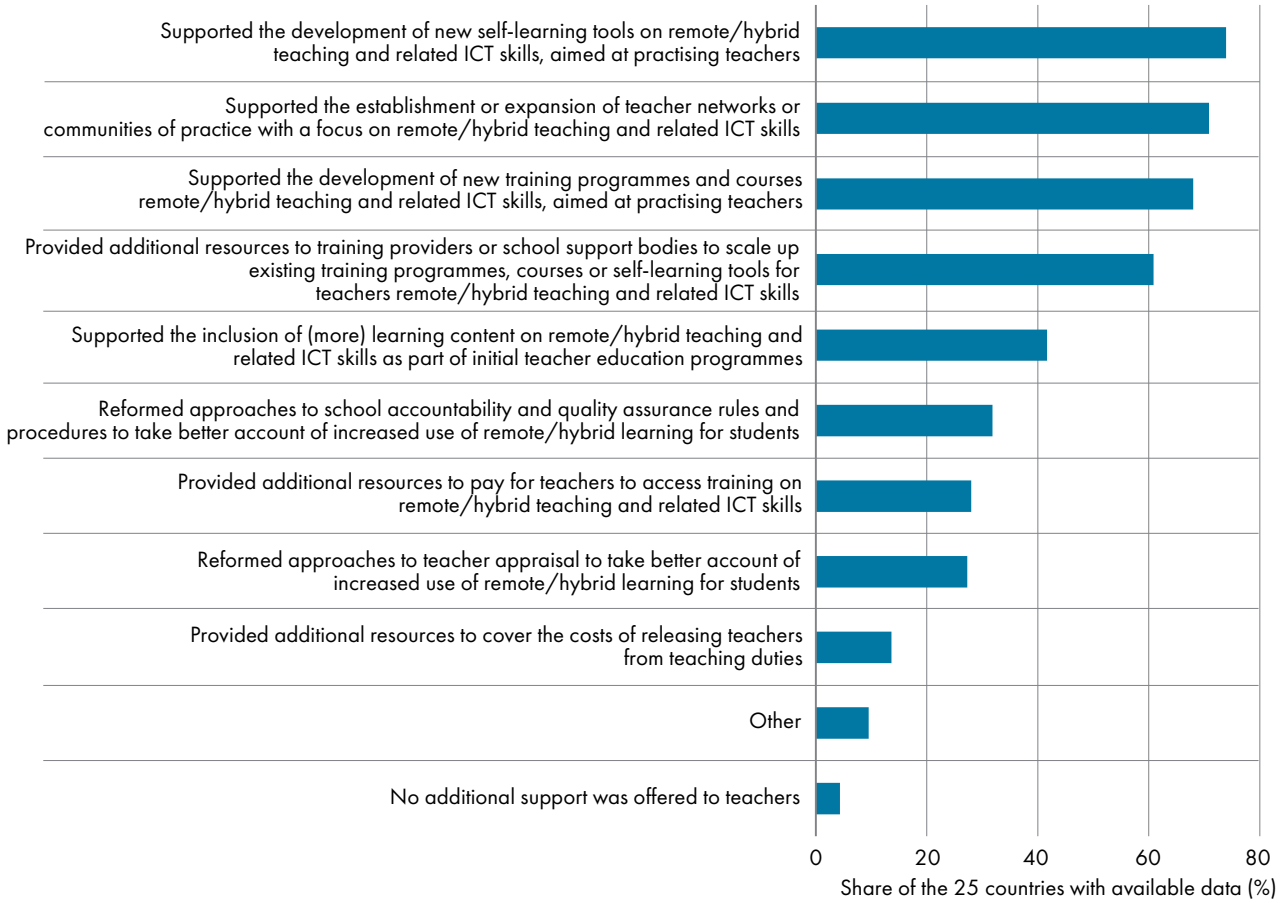
Note: All percentages refer to the share of high responses (i.e., 4 and 5 on a 5-point-scale). Participation in SELFIE is anonymous and voluntary, thus the data are not representative. SELFIE is available in Europe and beyond, and the data represented in this chart only include observations form OECD countries. However, not all OECD countries are available and included in the dataset. Disclaimer: These aggregated and anonymised data are extracted by the European Commission from SELFIE and do not necessarily reflect an official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this document. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use that may be made of the information contained therein.

Source: SELFIE database (extraction October 2018-December 2020); Hippe, R., Pokropek, A. and P. Costa (2021[2]), Cross-country validation of the SELFIE tool for digital capacity building of Vocational Education and Training schools, in preparation.

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Figure 11 • VET teachers received additional support for professional learning to use ICT tools and remote/hybrid teaching more effectively

Different types of skills development support provided at the national level, VET (% of countries)



Source: OECD/UIS/UNESCO/UNICEF/WB Special Survey on COVID. March 2021.

Notes

1. This does not necessarily mean that all students actually participate in work-based learning, but rather that they are in programmes that in principle give access to work-based learning. For example, in some countries the work-based component is not mandatory. However, in some of the countries listed almost all students in these programmes indeed participate in work-based learning.

2. In one of the responding countries, it was at the discretion of schools or local authorities to decide on remote/online teaching.

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