

COPING WITH COVID-19

Distance Digital Learning during COVID-19 in ETF partner countries

6 June 2020

INTRODUCTION

By 16 March 2020, most education systems in the EU neighbourhood and Central Asia had closed their schools. In a matter of days, some distance learning was offered in most systems and in the ensuing weeks, most countries steadily broadened the offer and the extent of participation. **This remarkable achievement** was the result of rapid decision-making by education authorities, flexibility and hard work by teachers, enthusiasm and persistence by learners and their parents, as well as significant input by technology and telecom firms, donors and NGOs. **Broadcasting services**, particularly television, have been a key channel for distance learning in the countries of the EU neighbourhood and Central Asia. Participation in **digital distance learning (DDL)** has increased exponentially in many forms: virtual classrooms, learning platforms, social media, on-line repositories, on-line assessment, webinars, and recorded video lessons. Indeed, it appears that COVID-19 has achieved, in a few weeks, something that some people have been advocating for some time, namely the massive adoption of digital technology by public education systems.

This short report aims to describe what happened in the countries of the EU neighbourhood and Central Asian during the COVID-19 crisis. It documents the truly impressive achievements, while providing a reality-check for those who see the internet as the means to fulfilling the promise of education for all, whenever and wherever.

This report builds on the **mapping** of the responses of 27 education systems in South Eastern Europe, Turkey, the Southern and Eastern Mediterranean, Eastern Europe and Central Asia. The analysis is based on desk research and interviews conducted with key informants, generally in ministries and national agencies, over a three-week period from 20 April to 13 May. The mapping aimed to find out about the nature and the extent of distance learning in response to the COVID-19 crisis, the methods used, and how it is managed, regulated and implemented. The investigation has focused on the uptake of distance learning across compulsory public education systems, and, where possible, also in vocational and work-based learning contexts.

The mapping gives only a provisional account of this **large-scale educational experiment**. The priority over the last few weeks has been on action, rather than monitoring, and our knowledge of what is going on is patchy, in particular as regards the impact on learners and learning achievements, quality of learning and coverage. There is pressure on policy makers and education providers to demonstrate that they are responding to the crisis and meeting their obligations, with the result that sometimes achievements are better documented than gaps and needs. One conclusion of this report is that better monitoring of competence, capability and participation in DDL will help countries make the most of the COVID-19 response and better prepare for and meet learning demands. This mapping nevertheless gives evidence of the capacity of

educational systems to change. In particular, it demonstrates that, with the right support and training, many teachers were able to change how they teach in a very short period of time. However, the report also makes plain that countries that did not invest in educational technology and professional development and did not have organisations able to take the lead in the crisis, have been at a disadvantage. It also reveals that Digital Distance Learning is not a panacea: there are considerable challenges with respect to inclusion, pedagogy, connectivity, engagement and quality.

From a positive perspective, it seems that the lockdown has, for many teachers and learners, been a shock-therapy revealing how **digital and on-line learning (DOL)** - as well as digital distance learning - can be used in education in times of crisis and beyond. It has demonstrated that, particularly in challenging times, ministries of education can draw upon know-how, goodwill, initiatives and support from many actors, such as teachers, professional associations, parents, broadcasters, and technology and telecom companies. The challenge for education policy makers is to **coordinate, motivate** and **sustain** these energies, so that they can be harnessed to remedy the visible and invisible damage done by COVID-19 and support education and training into the future.

1 Digital Distance Learning across the ETF partner countries – Coping with crisis

How is Digital Distance Learning governed?

In most countries, education ministries and national agencies initially provided information about the school lockdown, provided guidelines to schools and teachers to implement DDL and informed families on the pace and extent of DDL provision. Decisions about which sectors of education to prioritise and whether and when to close down schools, training centres and work-based learning were taken at national level.

In the vast majority of countries, the emergency has been managed without the creation of ad-hoc bodies or task groups. In Serbia, however, the Commission for Development and Implementation of Dual Education established a team to facilitate online teaching in the field of dual education in emergency situations, and in Turkey a new group was set up to coordinate DDL.

Governance of DDL usually reflected governance of education and training systems – in some cases recent reforms in governance were continued. For example:

- **Moldova**, in line with a recent reform that reinforced the autonomy of VET institutions, the Ministry has made VET institutions responsible for the organisation and delivery of DDL, including responsibility for ensuring student access to online learning platforms. The approach appears to 'road-test' the VET reform, though this will be a challenge for many schools. Furthermore, VET institutions have been requested to organise remote competence-based student assessment based on the use of a digital portfolio and an online project.
- **Ukraine**, following the regionalisation of VET, regional authorities have been entrusted with managing DDL for VET (decentralised bottom-up model) supported by

regional training methodological centres, and delivered by VET institutions. Similarly, in **Kazakhstan** regions have led the roll out of DDL.

- **Israel** has also made colleges, schools and teachers responsible for delivering DDL, fostering bottom-up pedagogical innovation, based on virtual classrooms (G-suite), online projects and closer connections between teachers and parents. However, at national level experts have provided training and subject inspectors have provided ongoing support, as well as monitoring and e-monitoring.
- **Turkey, Georgia, Serbia and Egypt** have followed a more top-down approach, taking national level decisions about which edtech solutions are used and investing in national content creation and national broadcasting.

The mapping suggests that different governance models can lead to different outcomes for the take-up of DDL. There is evidence that countries which have established policies, strategies and institutions to develop DDL were able to respond more rapidly to the crisis – though this only happened where these strategies have been backed by investment and action (see Section 3 below). **In most countries**, ministries played a key role in coordinating donors, mobilising television stations, Telecom and ICT companies to accelerate the provision of DDL and reduce the digital divide for disadvantaged groups and remote areas. In only a few countries, such as Turkey, Azerbaijan and Armenia, governments quickly authorised additional spending on education,

To conclude, existing national and regional governments have, in most countries, led and coordinated the roll-out of DDL, although in some countries the responsibility has been largely delegated to schools. Governance arrangements have not changed greatly in most countries. Though, in some countries, central educational bodies have accelerated the shift to DDL by cooperating with the private sector (e.g. Telecoms and IT companies), other public sector organisations (e.g. broadcasters) and networks.

What is the level of participation in Digital Distance Learning?

Across the ETF partner countries, there has been a broad tendency to prioritise distant learning provision for general and higher education, as opposed to vocational education and training. In general education, some countries have prioritised primary education, but most have prioritised ‘exam classes’, for example, end of Primary and end of Secondary classes preparing for high stakes examinations. During the first weeks of distance learning, several countries focused on core subjects: mathematics and national language. With limited resources and time, it makes sense to prioritise; decisions about what to prioritise reflect public concern, student numbers, and ability to quickly deliver on specific actions.

Many countries currently report that all, or most, of the general curriculum is online. However, this may amount to little more than uploading textbooks and a few exercises to learning platforms. It is not generally known to what extent teachers are supporting learners who try to use these materials. Over time, some countries have gradually extended DDL provision for the vocational curriculum, adding links to on-line resources, additional television broadcasts (Turkey) or learning platforms (Jordan). In Azerbaijan, it is

estimated that DDL covers over 50% of the primary, lower and upper secondary curriculum. In about half of countries, there are now repositories of video lessons and activities to support distance vocational learning. In a few countries there are also broadcasts for vocational learners. It is difficult to judge accurately the extent of provision, however, in most countries DOL and broadcasting only partially cover the curriculum for this semester.

In most countries, participation rates are not known or published. It is reported in Jordan and Morocco that more than 70% of learners are accessing some distance learning, but participation is much lower for VET students. In Egypt, about one third of all learners are registered on Edmodo. Kazakhstan, which carries out monitoring, reports that 91% of VET colleges are using on-line learning platforms, and just 1.5% of learners do not have access to a suitable device. Azerbaijan reports that the national learning platform, AzEduNet, covers half of the academic curriculum and reaches 85% of students and 75% of teachers, though the figures are lower for vocational learners and teachers. In Albania, it is estimated that some 50% of VET learners access some kind of distance learning. In Israel, where post-16 vocational college teachers formally report their on-line teaching, it is estimated that 40% of teachers and 70% of learners are participating in distance learning. In Tunisia, Algeria and Georgia there appears to be almost no distance learning for VET learners. In Moldova, it is claimed that most learners participate, and in Belarus, it is reported that while some 50% of students in general schools have stayed at home, most VET learners have continued to attend school.

So far there has been little monitoring of participation by learners. Unfortunately, even where there are broadcasts and content covering the curriculum, this does not guarantee that learners participate. In the UK, for example, a [survey](#) by the Sutton Trust showed that while 60% of teachers are providing some on-line lessons, just 23% of all learners participate in live or recorded lessons daily.

Turkey's rapid and massive response has been exceptional, but this was only possible because of the country's long term digital educational strategy. Over the last few years, Turkey's Educational Media Department (EBA) has developed a comprehensive system of digital and on-line education, with well-stocked repositories, virtual classrooms, dedicated studios for educational filming, expertise and know-how already in place. In the first week of distance learning after 23 April, Turkish teachers were able to deliver 150,000 virtual lessons, rising to 500,000 lessons in the second week, of which 200,000 were taught at the weekend. During the lockdown, EBA was able to increase bandwidth and add data centres in order to increase capacity to 300,000 concurrent users. Turkey has also made extensive use of broadcasting, launching three new education channels, each broadcasting 8-15 hours per day, and making digital versions of broadcasts available on-line. Over several years, teachers have been seconded to EBA to create content, so Turkey was able to mobilise 674 teachers to prepare a total of 2,080 lessons addressing 93 fields of study, enough content to complete the school year.

How is Digital Distance Learning Delivered?

Digital distance learning (DDL) has been activated rapidly in most countries, and provision has been progressively broadened in terms of coverage and media. In most countries, **broadcasting lessons** on television, radio and on demand from digital platforms has been the single most important mode of distance learning.

In parallel, **social media** such as WhatsApp and Viber (instant messaging for synchronic multimedia communication), Facebook groups (for synchronic and asynchronous online collaboration), have been used, often **spontaneously**, by schools, teachers and students to remain connected, to collaborate and for micro-lessons. The use of the social media has, to some degree, helped to sustain educational communities usually situated in schools, and it has enabled individual learners, parents, teachers, experts and managers to take the lead and **facilitate collaboration**. Some national authorities have used social media to organise state-wide DDL because it is interactive, free, popular and accessible from any digital device. For example, in Palestine the Ministry of Education created a Facebook page "Ta2ammal" to support students and receive feedback on their progress and experience. There are similar initiatives in Albania and Uzbekistan.

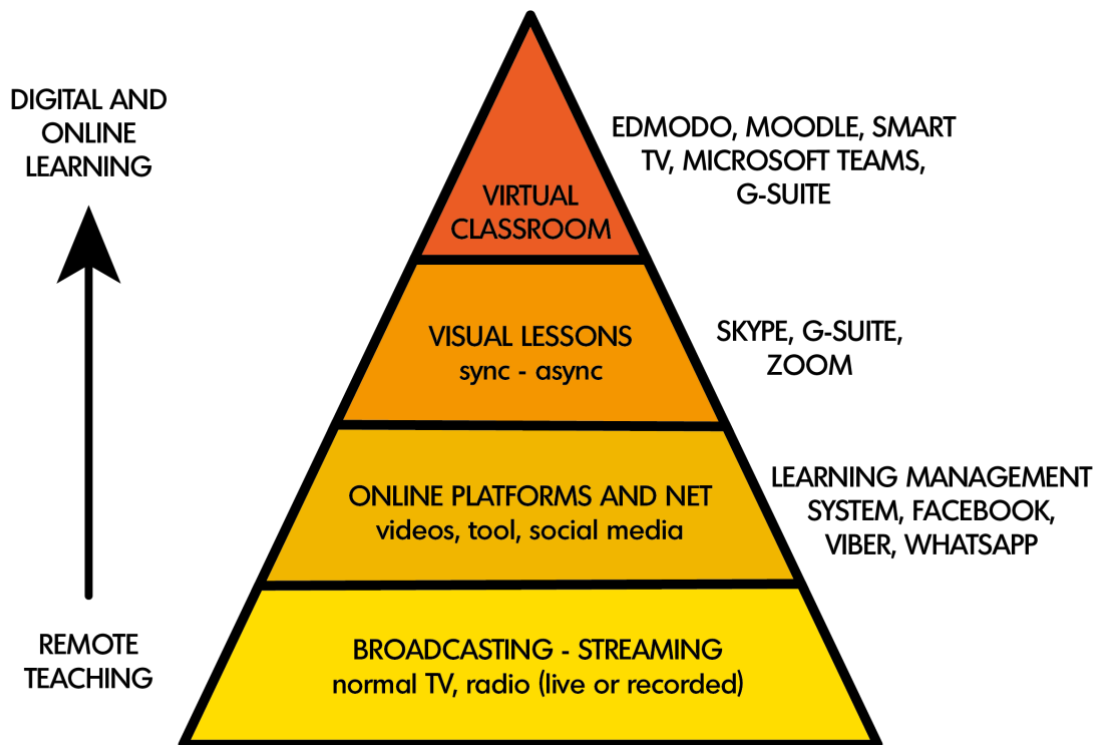
Video group call systems such as Skype, Meet and Zoom have been increasingly used for teaching, either at the initiative of schools and teachers or because they are nationally encouraged by schools and teachers. This software is often free, readily available and accessible from all devices.

The large-scale use of **virtual classroom** software usually follows a national policy decision. Take-up of virtual classroom software appears to be more successful where it has been systemic and backed by a reliable national platform, support and training for

teachers and system-wide analytics. This is happening in Serbia, Egypt, Georgia and Turkey.

There are few examples of DDL dedicated to supporting work-based learning. Businesses and schools in Serbia came together to develop a suite of [video lessons](#) filmed in the workplace, to provide some continuity for learners. In North Macedonia's dual education programme, students have been able to make their own demonstration videos. A few countries have continued to use special software to simulate work-based learning.

Overall, DDL has taken many forms. Limited connectivity and access to devices, digital instructional resources and teacher know-how have limited DDL, so teachers and administrators have had to combine high-tech and low-tech methods. In **Kazakhstan**, for example, regional administrations are expected to assist with the physical delivery of teaching materials and assignments to students that live in remote areas or belong to disadvantaged groups. Some teachers and students have found it difficult to coordinate teaching and learning across many channels.



What training and support for Digital Distance Learning has been provided?

It is generally reported that the capacity of teachers to provide online distance learning has been a major constraint. Interviews suggest that in early March 2020, only a small minority of teachers across the ETF's partner countries had the capacity to deliver online distance learning. Most national education authorities have offered, at the very least, some information and links to platforms or websites. Some countries have been able to offer teacher online training on how to carry out on-line distance training. Best practice is exemplified by those countries where training has been complemented with ongoing support, helplines, guidance, monitoring and evaluation. The work and know-how of

teachers has been supported by sharing digital resources. In some countries, there have been opportunities for some teachers to develop professionally, mentoring or training other teachers, helping to develop digital materials or getting involved in broadcasting. However, there has been little effort to address the specific needs of teachers in vocational as opposed to general education.

There has not been much time for needs assessment. Training programmes generally focus on training teachers to use education technologies. In Turkey, the Ministry of Education negotiated large-scale on-line training provision for teachers enabling 125,000 Turkish teachers to follow one or more of 17 distance learning programmes provided by different software companies. In Armenia over two weeks, 420 teachers participated in a [Distance Learning Programme](#) and a further 158 vocational teachers participated in a basic e-learning programme provided the National Centre for Educational Technologies in partnership with GIZ. In Israel, subject inspectorates and development and innovation agencies (such as ORT and AMAL) are providing training and have also established networks and support groups to help teachers to collaborate in practice.

Some countries, such as North Macedonia, have followed a cascade approach whereby 1,250 teachers (two teachers from each primary and secondary school) have been trained to use Microsoft Education 365 tools and asked to pass on their learning to colleagues. Serbia has also provided online training for teachers, "[four days a week, twice a day](#)", to support the uptake of Microsoft Teams as a distance learning platform. Adopting state-of-the-art international software means teachers (and teacher trainers) can access existing teacher training manuals, on-line help and videos. Software companies have helped by making software free to education users. However, the need to make quick decisions at national level may lead to sudden changes in development strategy. In the Western Balkans, for example, many teachers and experts have invested in Moodle, so a sudden switch to Google or Microsoft, may be disruptive.

In Georgia, the nationwide adoption of Microsoft 365 Education has enabled curriculum and technology experts to work together to develop guidelines, facilitate the work of teachers, develop digital tasks and materials and electronic assessment tools. Virtual counselling centres, staffed by volunteer teachers, provide ongoing support. Students and teachers have been centrally registered, which enables systemic monitoring. It is known that Microsoft Teams has 750 active daily users.

In a number of countries, such as Serbia, a national [platform](#) has been set up where psychologists and pedagogues are invited to share their experience and good practice. Teachers, schools and methodological centres have been encouraged to share their resources in order to reduce workload. Ukraine's [Na urok](#) platform has built a considerable following. It offers instructional and assessment materials, and many trainer-to-teacher and teacher-to-teacher webinars that are formally recognised as professional development for teachers.

In Albania, a teacher survey monitored the needs of teachers and learners during the shutdown, while in Israel, inspectors have systematically observed Zoom lessons in order

to monitor quality and participation. In some countries, such as Morocco, teachers or their trade unions have been consulted about their needs. Teachers in Morocco say they do not know how to organise distance learning, and many say they lack sufficient access to laptops and high-speed internet.

In several countries, efforts have been made to provide support to parents and carers to increase their capacity to help their children in their studies. While some guidance has been provided on Ministry platforms, this kind of support seems to have been most effective at school level. In Kazakhstan, for example, schools reported exceptionally high participation when they provided on-line information sessions for parents, and some countries have gone on to develop sections for parents on their on-line learning platforms. Schools in Moldova are expected to reach out to families and learners and maintain contact. Where schools were already communicating regularly with parents using social media and email prior to the shutdown, they have been able to consult parents and inform them on changes during the early phase of the shutdown to address uncertainty and engage their support.

Digital Distance Learning and Inclusion

Inclusion is a concern, since it is recognised that learners from socially and economically disadvantaged backgrounds are less likely to participate in distance learning. As disadvantaged learners are overrepresented in vocational schools, they are also less likely to benefit from distance learning provision. Disadvantaged students are less likely to have access to a suitable device and high-speed internet access. It is estimated, for example, that only 37% of TVET learners in Lebanon have internet access. They are also less likely to receive support from their parents, who may be at work or lack educational and technological know-how. Unsurprisingly, many national and international organisations have concluded that the lockdown will increase educational inequality¹.

In the Maghreb and elsewhere, these factors have encouraged education authorities to rely on broadcasting rather than digital channels for distance learning. In many countries, governments have negotiated free telecom or broadband services for all (Turkey, Georgia, Montenegro, Morocco) or for disadvantaged learners (North Macedonia, Serbia). Tablets and other devices have been donated by companies to thousands of learners in Armenia and hundreds of disadvantaged learners in the Western Balkans. In Kazakhstan, schools have lent computers to families. In Albania, it is reported that many students participate in digital distant learning using smart phones rather than laptops. Greater access to mobile devices can help to reduce the digital divide.

Serbia has supported distance learning in several languages. For example, guidance for teachers and some broadcasts and resources for learners are available in Hungarian. Kazakhstan has produced some broadcasts that incorporate sign language.

¹ ILO-UNESCO-WBG Joint Survey on Technical and Vocational Education and Training (TVET) and Skills; OECD: Development during the time of COVID-19; VET in a time of crisis: Building foundations for resilient vocational education and training systems

It is reported in several countries that private schools have been able to respond better than public ones. They are better equipped and have strong relations with the families they serve, who, in turn, are better placed to support home learning.

In the Lebanese and Palestinian camps, UN teams have extended existing distance learning programmes to engage disadvantaged students who can no longer attend school or college, including students on vocational programmes.

2 Achievements and Challenges

Achievements: Digital Distance Learning

Rapidity and collectiveness of response

Given the typical pace of change in education, the rapidity of decision-making and implementation have been impressive. In many countries, teachers and advisors took advantage of the two-week spring break to spend their holidays preparing materials and systems. In most of the ETF's partner countries, distance learning was launched one, two or three weeks after the lockdown.

Most countries that moved very quickly to develop digital channels did so in cooperation with EdTech companies. Countries such as Georgia and Egypt quickly adopted off-the-shelf education technology suites that support distance learning along with other functionalities. In a number of countries, new educational repositories were designed (or refreshed) and rolled out in weeks. In Serbia, for example, the Ministry of Education, Science and Technological Development, in collaboration with the private company Comtrade, launched a [new platform](#) for DDL. In Montenegro the Ministry in collaboration with a private technology company, Amplitude, set up a [new platform](#) providing a timetable of broadcasts and a repository of video lessons.

Of course, creating or adopting an education platform does not translate automatically into participation in distance learning. In Georgia, for example, where all learners and teachers were centrally registered on a national Microsoft Education 365 platform, there was no provision at all for vocational learners. In general, repositories are only partially filled with content, which is particularly sparse for vocational subjects.

In most of the ETF's partner countries, the main channel for sustaining education has been television broadcasting. Unlike in some Member States, television in many of the ETF's partner countries is publicly controlled. So it has been possible for ministries to quickly arrange for channels to broadcast and re-broadcast studio-made lessons for primary and high schools students for key subjects.

Capability of teachers for digital distance learning

Although it is difficult to measure, it is clear that in most countries many teachers have developed their capability to carry out digital distance learning from home. Many have been helped by training, but many have learnt from peers (or their families). In Israel, where this has been monitored, it is reported that capability for DDL has gone up from more or less zero to 40% of the post-16 College workforce over 8 weeks. Capability for

digital film making, online communication and e-assessment has increased in many countries. Many schools have discovered that they can organise on-line meetings with parents, and teachers have learnt to use WhatsApp to keep in contact with groups of learners or teachers.

Cooperation

The shock of COVID-19 has encouraged greater cooperation at many levels. Some teachers and experts have become more willing to share resources through Facebook groups or national repositories than they were before the crisis. Education, health and technology ministries have usually cooperated well with one another and decision-making has been relatively quick. In most countries, ministries have been effective in negotiating with private sector telecoms and broadband providers to obtain better connectivity for some or all learners. In practice, many learners depend on mobile data connections, which are relatively expensive. In Turkey, for example, the government negotiated with Turkish mobile networks to obtain 6-8 GB of free data each month for learners. Similar solutions were put in place in many countries, including Kazakhstan, Uzbekistan, Morocco, and Palestine. At international level, there has been some collaboration for DDL. For example, 297 video lessons covering maths, science and French by the French network Réseau Canope were shared with Lebanese schools. The UNESCO regional office in Beirut held regional webinars to support the digital competences and distance learning capability of teachers in the Eastern Mediterranean. GIZ has supported distance learning, for example, in Serbia, Kosovo and Armenia, as has the Swiss Development Agency in Albania and Kosovo. However, aside from donors and international agencies, there has been little bilateral cooperation to support distance learning.

Challenges for Digital Distance Learning

Connectivity and devices

Lack of internet connectivity and access to suitable devices for many learners continues to be a major obstacle to DDL. For example, in Lebanon, Albania, Jordan, Bosnia, Egypt, Algeria, Tunisia, Tajikistan, Uzbekistan, Kyrgyzstan and Turkmenistan. Free access to the internet via mobile devices has helped but not solved this problem in some countries. Socially and economically disadvantaged learners are less likely to participate in DDL.

Vocational and work-based learning

The current practice of vocational teaching and learning is not well suited to current forms of digital distance learning. There is a lack of textbooks and instructional material. The practical and social dimensions, both of learning and assessment, cannot be easily managed online. Apprenticeships and other forms of work-based learning have been largely halted by the economic shut down. In all countries, there has been very much less provision of DDL for vocational learners than for academic learners. With better preparation it will be possible for more work-based learners to restart or continue their work-based learning remotely, through on-line apprenticeships, for example.

Monitoring

As far as we know, in only a few countries, such as Kazakhstan, Albania, Israel and Turkey, is there systematic monitoring of the participation of teachers, schools and learners in DDL. Without monitoring, there is a risk that DDL provision remains supply-driven, resources are used inefficiently, and certain groups are neglected. Greater use of national systems will make it possible to make greater use of analytics.

Isolation and wellbeing

The motivation and engagement of teachers and learners can be undermined when they are socially isolated and anxious. It is evident that many teachers and learners need support and contact. Keeping in contact is vital for well-being as well as being a precondition for teaching and learning. Most teachers are female, and women have been particularly burdened by additional childcare and domestic responsibilities during the lockdown.

Challenges for learners

DDL places additional demands on learners and their families. In addition to equipment and internet, learners need motivation, digital skills, concentration and the capacity to navigate different media. Many young learners suffer from social isolation and they may be expected to take on additional tasks at home, such as childcare.

Uncertainty

COVID-19 and the lockdown are unprecedented events that have led to great uncertainty. There is a risk that some teachers and students are left waiting for instructions when they could start to find solutions themselves, if authorised and encouraged to do so.

Digital assessment

A few countries have put in place formative assessment methods using virtual classrooms. Yet, most countries do not have the capacity to switch to e-assessment and none have the capacity to make such changes at short notice for high-stakes end-of-year exams. Assessing the practical components of vocational subjects present additional challenges.

Schools and dormitories

While it is essential that vocational students have access to workshops and laboratories to practice skills and perform assessments, the use of these spaces during and after the lockdown will be subject to controls and monitoring in order to protect health and to reassure teachers and learners. In future, blended learning or use of simulation software may contribute to the safe use of workshops, for example, on a rotational basis. The safety of dormitories must be checked and ensured, particularly where learners have continued to stay in dormitories during the lockdown.

3 Reflections on preparedness

Countries where ministries or agencies already had know-how, strategies and experiences in the development and coordination of digital education at the start of the

lockdown were at an advantage. They were able to make use of pre-existing platforms and software for e-learning and for professional development and there was already some DOL expertise in most schools and national education agencies.

The pace and extent of DDL response to school lockdown varied significantly between countries and in many cases within countries between general and vocational education. Higher education experienced relatively high participation rates in DDL because universities started with more capability and experience in distance learning and higher education students have more experience of distance learning, better access to suitable devices and better connectivity. Information from all ETF regions suggests that digital preparedness has affected the pace, extent and quality of DDL response, in terms of capacity to scale-up existing solutions and rapidly put in place new ones.

Existing repositories and platforms have underpinned the DDL response. Where tried and tested platforms already existed, as in Turkey, it was possible to add resources, increase use and expand data capacity.

In Turkey, Serbia and Israel there are organisations and institutes that already had expertise in the creation of digital materials and training of teachers for digital pedagogy.

In Kazakhstan, Serbia, Albania and Turkey, a relatively large proportion of teachers already had experience in a range of DOL tools, such as video lectures, virtual classrooms and educational social media. These teachers were able to support and train their colleagues.

Long-standing experience with the use of virtual classrooms has allowed teachers to go beyond 'remote teaching' and offer more interactive online classes, open to real life data and projects, group work and peer-learning.

Where capability for DDL was not well advanced, in terms of connectivity, hardware and teacher capability, such as in Algeria, Tunisia and Lebanon, there was no planned systematic distance learning for vocational learners.

We can identify two types of country strategy to promote DOL: the first provides a long-term vision for DOL as a means of modernising education and training systems, and the second focuses on specific aspects related to the operationalisation of DOL e.g. defining standards, creating resources, training for teachers for DOL. While both types of strategies have value, some of the partner countries have limited their development strategy prior to the crisis, limiting the capacity of their education systems to switch to DDL.

MAKING THE MOST OF DDL: RECOMMENDATIONS

Planning responses to COVID-19 is extraordinarily difficult. The nature and the impact of the disease are not fully understood and policy makers have to learn, respond and adapt

quickly. Health has, quite rightly, been prioritised over education: DDL appears to offer a way of sustaining education whilst protecting health. In this section, we outline some advice that emerges from the mapping.

To conclude the current school year

- In those countries where students begin to return to school, DDL should continue to be part of the offer since blended approaches can help to secure social distancing and build on recent learning.
- Where possible, the learning that has been conducted through DDL should be recognised in end of year and end of cycle assessments. Otherwise, the commitment and learning of teachers and learners will be devalued.
- DOL can form part of the package to compensate for missed learning, for example, with special catch-up classes or missed assessments.

To plan and manage the next school year

- Schools, ministries and agencies should review how well their DDL response has worked so that they can understand its strengths and weaknesses – both quantitative and qualitative. In particular, a better understanding is needed of why some schools and teachers have been able to respond well to the challenge and why some educational sectors, such as vocational education, have performed relatively poorly.
- Ministries and agencies should consult with all stakeholders with a view to selecting and implementing national or regional educational technology systems, for example, for virtual classrooms and national repositories of educational materials.
- Large scale professional development programmes should be made available to enable all educators to make effective use of different DDL technologies. These should build upon the know-how acquired during the crisis – and should make use of the capacity of teachers to support and train their colleagues. These programmes should particularly address the pedagogy of DDL and should enable teachers to become independent, reflective digital educators. These programmes will be fully or partly on-line and are likely to be complemented by on-line professional communities.
- Explore flexible and hybrid models for learning, for example, modular approaches, blended approaches and alternance. DOL and DDL can help to increase flexibility in the provision of education and training.
- Adoption of diagnostic tools, such as **SELFIE** to map the digital readiness of schools and EU DigCompEdu map the digital competences of educators.
- Build upon the work of schools and teachers making use of social media and video conferencing to sustain communication with learners and families. Explore how support and training can be given to parents and carers to support young learners, particular those learners with special needs or those that are hard to engage. Build upon and expand measures that address the well-being of teachers and learners that become isolated and anxious.

Beyond COVID-19

- The COVID crisis should raise aspirations about what Digital and On-Line learning can contribute to education and training and about how teachers and learners, in a short time, can transform the way in which they teach and learn.
- Make more long-term, strategic investment in digital equipment, software and connectivity for teaching and learning in and between schools, training centres, homes and workplaces. This should address how these technologies connect with one another, sustainability and equity.
- Plan and develop Digital and Online Learning to have flexibility in relation to place and time. Consider how particular learning technologies can be combined with changes in pedagogy and curriculum, particularly, to address the needs of vocational, lifelong learners and their teachers.
- Engage vocational teachers, trainers and experts to develop DOL tools and resources that will support the teaching, learning and assessment of vocational competences across time and space. Such tools are likely to include more use of video, VR and gaming technologies and ways of supporting learners to carry out e-internships and e-apprenticeships.
- Improve the governance of digital and on-line learning by collaborating with national and international actors to develop standards, safeguards and processes that protect and support individuals, families and communities, democratise information and knowledge and balance the competing interests of the digital economy, society and the environment.
- Collaborate regionally and internationally to mutualise online educational resources, especially for vocational and lifelong learning. Support the systemic adoption of Open Educational Resource (OER) policies and practices.
- Incorporate DOL and DDL within Quality Assurance Frameworks.

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