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Teaching and learning in schools in Europe during the COVID-19 pandemic

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Eurydice Brief

Teaching and learning in schools in Europe during the COVID-19 pandemic

2020/2021

This Eurydice Brief shows the impact of the COVID-19 pandemic on the organisation of school education and reviews key policy responses introduced by European education systems to tackle emerging difficulties in teaching and learning.

It summarises to what extent the schools in Europe were open, closed or provided distance and/or blended learning in 2020/2021. Detailed data by education level are included for each month.

School digitalisation levels just before the COVID-19 pandemic (in 2019) are discussed analysing the extent to which schools were already implementing online learning management systems and the availability of computers for student use in schools. The main actions taken by top-level education authorities to support the digital capacities of schools and teachers are then described. Finally, the paper reviews additional learning support programmes and measures put in place to counterbalance the 'COVID-19 learning loss' caused by interruptions in classroom-based learning.

This is an excerpt from the report 'Increasing achievement and motivation in mathematics and science learning in schools'.

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Text completed in July 2022.

HOW DID COVID-19 AFFECT TEACHING AND LEARNING IN SCHOOLS IN EUROPE?

The daily reality of schools across Europe was strongly affected in 2020 and 2021 by the COVID-19 pandemic, which led to school closures in many countries and periods of distance or blended learning (combining online and classroom-based learning) for many students. Many schools were ill-prepared for this unprecedented situation. They did not know which technologies and methodologies were the most appropriate for teaching, in terms of effectiveness, security and accessibility (Cachia et al., 2021). Teachers had to rapidly adapt to new modes of delivery of teaching, in which they had not necessarily been trained; and students had to rely initially on their own resources to continue learning remotely using textbooks, the internet, television, etc. (Schleicher, 2020).

Some students who had a supportive home environment, characterised by, for example, a high level of support from parents, a quiet space to study and the necessary digital devices, reported learning gains in some areas, such as in the use of technologies and in transversal skills such as creativity, problem-solving and communication (Cachia et al., 2021). However, a number of reports and studies point to the lack of effective formal teaching during this time and the resulting learning losses (Blaskó, da Costa and Schnepf, 2021; Cerna, Rutigliano and Mezzanotte, 2020; Di Pietro, Biagi and Costa, 2020; Hanushek and Wößmann, 2020; Wößmann et al., 2020). For example, a study on schools in the Flemish Community of Belgium over a period of 6 years (2015–2020) found a significant learning loss for students in the 2020 cohort. The study suggests that school closures led to a decrease in average scores in mathematics and Dutch compared with the previous cohort (Maldonado and De Witte, 2022).

School closures and distance learning due to the COVID-19 pandemic exacerbated existing educational inequalities.

Moreover, the pandemic was found to have exacerbated existing educational inequalities (European Commission, 2022a). Students with low educational attainment, those from disadvantaged backgrounds, those who did not have access to digital learning resources and those with learning difficulties or lacking the resilience to learn on their own, faced substantially more obstacles in the context of distance learning (Cachia et al., 2021). Studies have highlighted the detrimental effect that school closures and distance learning have had on these students (Blaskó, da Costa and Schnepf, 2021; Engzell, Frey and Verhagen, 2021; Grewenig, Lergetporer, Werner, et al., 2021; Hanushek and Wößmann, 2020).

This evidence of negative effects prompted the European Commission to table a proposal for a Council Recommendation on blended learning for high-quality and inclusive primary and secondary education, adopted by the Council in November 2021 ([1]). The Council Recommendation forms part of the response to lessons learned from the COVID-19 pandemic, which highlighted many pre-existing challenges and inequalities. It recommends short-term measures to address the most pressing gaps observed so far and outlines a way forward in terms of blending learning environments and tools that can help build more resilient primary and secondary education and training systems.

This paper highlights some general aspects related to the impact of the COVID-19 pandemic on schools during the 2020/2021 school year. The first section presents the organisation of school education during this school year (i.e. it looks at when schools were

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([1]) Council Recommendation of 29 November 2021 on blended learning approaches for high-quality and inclusive primary and secondary education 2021/C 504/03. OJ C 504, 14.12.2021, p. 21–29.

open, closed or provided distance and/or blended learning). It then outlines the variation in the digital preparedness of schools before the pandemic in Europe. The main actions taken by top-level education authorities to support the digital capacities of schools and teachers are described in the following section. These measures include providing recommendations/guidelines on digital education, supporting continuing professional development (CPD) for teachers and providing additional funding where digital infrastructure, connectivity or devices were lacking. Finally, the last section addresses top-level responses to the pandemic in terms of providing additional resources and means for learning support to students who lag behind.

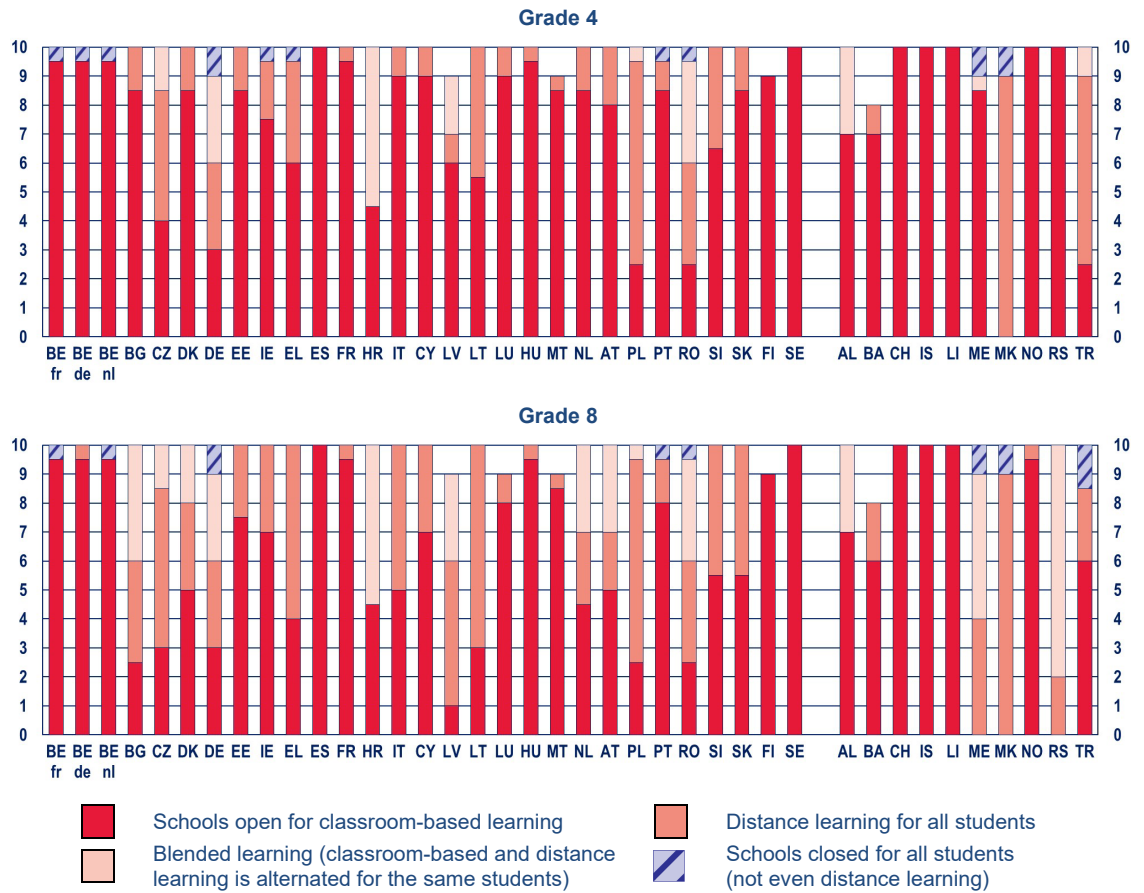# HOW DID THE ORGANISATION OF SCHOOL EDUCATION CHANGE DURING 2020/2021?

To understand the extent of school closures and their potential impact on teaching and learning in schools, this section investigates the organisation of schooling during 2020/2021. Figure 1 presents the number of months – between September 2020 and June 2021 (i.e. 10 calendar months) – during which European education systems kept schools open or closed – with or without the possibility of distance learning – or offered the option of blended learning (see Annex Figure 1A, for further information per country). Distance learning means that teaching and learning occur entirely remotely (from home), whereas blended learning combines online learning opportunities with traditional classroom-based methods.

Only a minority of countries kept schools open for classroom-based learning for all students throughout the entire year.

The figure shows that, in Europe, schools remained largely open during the 2020/2021 school year. However, only Spain, Finland, Switzerland, Iceland and Liechtenstein kept schools open for classroom-based learning for all grade 4 and grade 8 students throughout the entire year. In Sweden, schools were as well kept open, but school organisers were given permission to switch to blended or distance learning in some cases. In most other education systems, schools had to adapt their usual teaching and learning practices by switching to distance learning and/or blended learning for some of the school year. Complete school closures due to the pandemic were rather rare and of relatively short duration. Variations between countries in the total duration of the school year are mainly due to longer school holidays during the school year or the summer holidays starting already in June.

Schools in most countries switched to distance or blended learning for periods of different length.

Figure 1: Duration in months of different forms of school organisation in the context of the COVID-19 pandemic, grades 4 and 8, 2020/2021

Grade 4

Grade 8

Legend:
- Schools open for classroom-based learning
- Blended learning (classroom-based and distance learning is alternated for the same students)
- Distance learning for all students
- Schools closed for all students (not even distance learning)

Source: Eurydice.

Explanatory notes

The figure presents the number of months during which European education systems applied the indicated forms of school organisation during the 2020/2021 school year (except July and August, i.e. the main summer holiday months). See the Annex for a breakdown by calendar month and for further country-specific information.

Distance learning was the second most common form of school organisation. It was used in grade 4 and/or grade 8 for a duration of less than a month in France, Hungary and Malta, and for 5 months or more in Czechia, Greece, Italy, Lithuania, Poland, North Macedonia and Turkey. This mode of learning from home was used in slightly more education systems and for slightly longer for grade 8 students than for grade 4 students. This raises concerns about the older students' school careers, social development, and mental health and well-being (Viner, Russel, Saulle, et al., 2022).

Around one third of the education systems opted for blended learning as the dominant form of school provision, either instead of or in addition to a period of distance learning for all students. This applied in grade 4 and/or grade 8 for less than a month in Poland and Montenegro, and for more than 5 months in Croatia and Serbia. Overall, like distance learning, blended learning was implemented in more European education systems and for longer periods in grade 8 than in grade 4.

Finally, schools were rarely entirely closed (i.e. without the provision of even distance learning). Complete closure occurred only in Belgium, Germany, Ireland, Greece, Portugal, Romania, Montenegro, North Macedonia and Turkey. However, the closures generally lasted for a short period (1–2 weeks), and they mainly took place immediately before or after school holidays.

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WERE PRIMARY SCHOOLS DIGITALLY PREPARED FOR THE COVID-19 PANDEMIC?

Numerous European policy initiatives have been encouraging schools and teachers to take advantage of digital technologies for school management as well as for teaching practices ([2]). The Trends in International Mathematics and Science Study (TIMSS) administered by the International Association for the Evaluation of Educational Achievement (IEA) provides some information on school digitalisation levels just before the COVID-19 pandemic (in 2019). Two aspects are worth highlighting: firstly, the extent to which schools were already implementing online learning management systems and, secondly, the availability of computers for student use in schools. Although both reflect levels of school digitalisation, the use of online learning systems relates more to teacher familiarity with or acceptance of technology (Dindar et al., 2021), whereas the student–computer ratio may indicate the extent of the digital infrastructure available to students.

TIMSS data reveal that, in 2019, approximately half of grade 4 students in participating European countries attended schools that used an online learning management system to support learning (see Figure 2). The availability of such systems in schools does not necessarily imply that teachers and students were engaging in distance education before the pandemic. It is more likely that the systems were used for the digital management of grades, student access to course materials, teacher–student communication, etc. The availability of an online learning management system can serve as an indication of school digital competence (Pettersson, 2018). Such competence facilitates acceptance of digital technologies and their integration into school processes (Blau and Shamir-Inbal, 2017; Dindar et al., 2021).

In 2019, approximately half of the primary schools in the EU used an online learning management system. to support learning.

At least 90% of students attended schools with an online learning management system in Latvia, Sweden, Hungary, Finland, the Netherlands, Lithuania and Denmark. In these countries, schools may have been better prepared for the sudden switch to distance teaching and learning. For example,

> According to evaluations ([3]), schools in **Finland** were able to use the digital infrastructure that existed before the COVID-19 pandemic, as well as digital tools and learning environments, reasonably well. Two factors proved particularly important. Firstly, since 2016, the government had been funding a network of tutor teachers, which proved essential for teachers' preparedness for distance teaching during the pandemic. Secondly, since 2015, national authorities have been supporting the 'computers for everyone' initiative, which collects donated used computers and supplies them to schoolchildren and students ([4]).

In contrast, the proportions of students attending schools with an online learning management system were considerably lower in Albania, France, Germany, Cyprus, and Bosnia and Herzegovina. In these countries, before the COVID-19 pandemic, only 15–30% of grade 4 students were enrolled in schools that used an online management system to support learning.

([2]) See, for example, Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning, OJ L 394, 30.12.2006, p. 10; Council Recommendation of 22 May 2018 on key competences for lifelong learning, OJ C 189, 4.6.2018, p. 1; and Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the digital education action plan, COM(2018) 22 final.

([3]) Pennanen et al. (2021); Vuorio et al. (2021) (English abstract on p. 9). See also a factsheet from the Finnish Board of Education and a case study by the Association of Finnish Municipalities.

([4]) https://www.kaikillekone.fi/

Figure 2: Percentage of fourth graders whose school used an online learning management system to support learning before the COVID-19 pandemic, 2019

EU	AL	FR	DE	CY	BA	ME	HR	IT	ES	AT	MK	PT	IE	CZ
50.9	15.3	17.7	18.9	21.9	26.9	46.4	49.6	50.7	56.0	57.6	62.1	62.5	63.6	68.3
RS	TR	BG	SK	PL	BE nl	MT	NO	LV	SE	HU	FI	NL	LT	DK
71.1	74.4	78.1	81.8	82.3	82.4	84.0	89.6	90.8	94.2	94.3	94.6	96.4	99.5	100.0
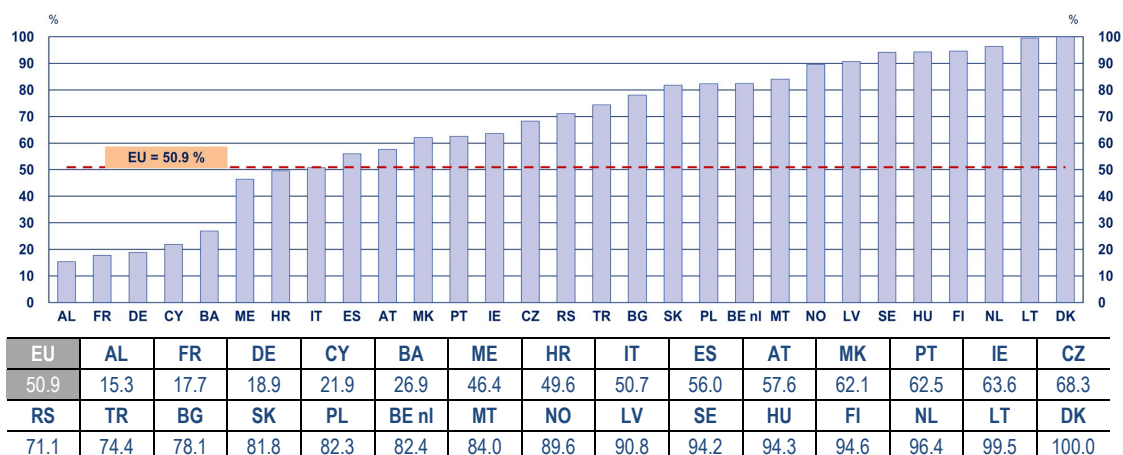
Source: Eurydice, based on the IEA TIMSS 2019 database.

Explanatory notes

Education systems are depicted in ascending order.

The proportion is calculated based on school principals answering 'yes' to question 9 (ACBG09) of the TIMSS survey 'Does your school use an online learning management system to support learning (e.g., teacher-student communication, management of grades, student access to course materials)?' Standard errors are available in Table 2.2 in Annex III of the full report (download here).

'EU' comprises the 27 EU countries that participated in the TIMSS survey. It does not include participating education systems from the United Kingdom.

The availability of digital devices such as computers and tablets in schools provides some insight into student familiarity with digital learning environments. Figure 3 shows the distribution of fourth graders per computer in schools before the COVID-19 pandemic.

Most students had access to shared computers in schools before the pandemic.

Before the pandemic, most schools in Europe had a certain number of digital devices available for use by fourth grade students. The most common situation, applying to 36.9% of students in the EU, was one computer being shared by more than two but fewer than five students. Moreover, 23.4% of students attended schools with one digital device available per more than one but fewer than two students. Such schools may have had some dedicated computer classrooms that were used by different classes for teaching certain subject areas. It is rather difficult to determine individual students' levels of familiarity with digital learning environments, but it is likely that many of them had some exposure to computers and the internet at school.

The survey data indicate that there was at least one digital device for every student for 17.3% of fourth grade students in the EU in 2019. These students may have had access to a computer or a laptop during any lesson, including in their own classroom. The best digitally equipped education system was Malta, where at least one computer or tablet was available for 94.8% of students. In Denmark, Sweden and Norway, this was the case for 65–70% of fourth graders.

Figure 3: Distribution of fourth graders per computer in schools before the COVID-19 pandemic, 2019
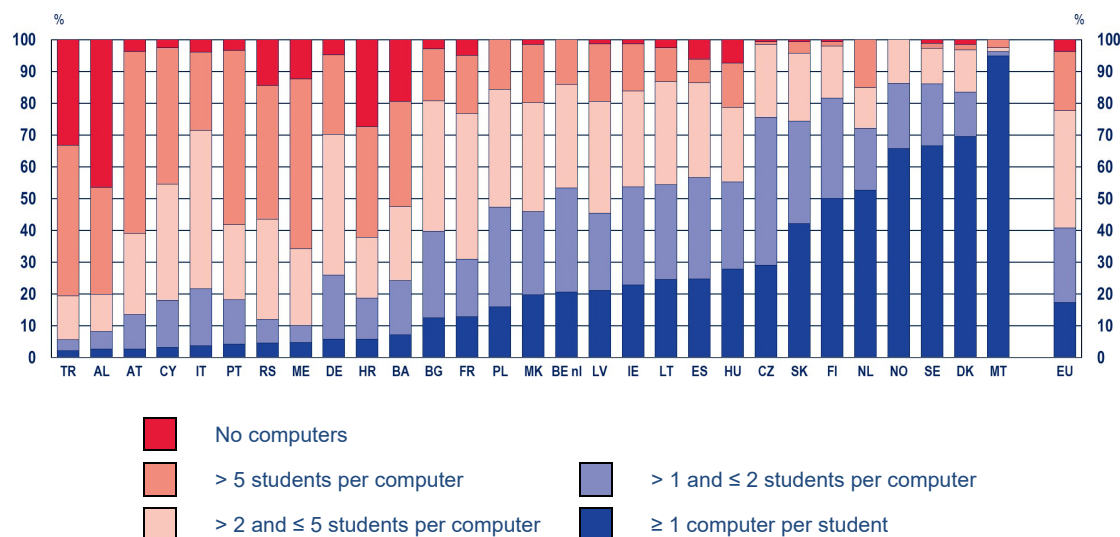
Source: Eurydice, based on the IEA, TIMSS 2019 database.

Ratio (students per computer)	EU	TR	AL	AT	CY	IT	PT	RS	ME	DE	HR	BA	BG	FR	PL
≤ 1	17.3	2.1	2.6	2.7	3.2	3.6	4.2	4.6	4.7	5.7	5.7	7.2	12.5	12.8	15.9
> 1 and ≤ 2	23.4	3.5	5.6	10.8	14.9	18.1	13.9	7.4	5.3	20.2	13.0	17.0	27.3	18.1	31.3
> 2 and ≤ 5	36.9	13.8	11.6	25.5	36.5	49.7	23.7	31.5	24.2	44.2	19.1	23.3	40.9	45.9	37.2
> 5	18.5	47.3	33.7	57.2	42.8	24.7	54.7	42.0	53.4	25.0	34.8	33.0	16.4	18.2	15.6
No computers	3.8	33.3	46.5	3.8	2.6	3.9	3.5	14.5	12.4	4.9	27.4	19.5	2.9	5.1	0.0
	MK	BE nl	LV	IE	LT	ES	HU	CZ	SK	FI	NL	NO	SE	DK	MT
≤ 1	19.7	20.6	21.1	22.8	24.6	24.7	27.9	29.0	42.0	50.0	52.5	65.7	66.5	69.5	94.8
> 1 and ≤ 2	26.3	32.7	24.3	30.8	29.7	31.9	27.3	46.5	32.3	31.6	19.5	20.5	19.5	13.9	1.5
> 2 and ≤ 5	34.3	32.5	35.2	30.1	32.4	29.8	23.5	22.9	21.3	16.4	12.8	13.8	11.2	13.4	1.1
> 5	18.2	14.2	18.2	14.9	10.8	7.4	13.9	1.0	3.6	1.3	15.2	0.0	1.6	1.7	2.6
No computers	1.6	0.0	1.3	1.4	2.5	6.2	7.5	0.6	0.7	0.8	0.0	0.0	1.2	1.5	0.0

Explanatory notes

Education systems are depicted in ascending order based on percentage of students who have at least one computer available at school.

The calculations are based on two questions from the TIMSS school questionnaire. The response to question 2 (ACBG02) – 'What is the total enrolment of fourth grade students in your school?' – was divided by the response to question 7 (ACBG07) – 'How many computers (including tablets) does your school have for use by fourth grade students?' When question 7 indicated 0 ('no computers'), the ratio was not calculated. In such cases the table shows the proportion of grade 4 students attending schools with no computers. Standard errors are available in Table 2.3 in Annex III of the full report (download here).

'EU' comprises the 27 EU countries that participated in the TIMSS survey. It does not include participating education systems from the United Kingdom.

By contrast, very few students (fewer than 5%) had individual access to computers at school in Turkey, Albania, Austria, Cyprus, Italy, Portugal, Serbia and Montenegro. High proportions of students did not have any access to digital devices at school in Albania (46.5%), Turkey (33.3%) and Croatia (27.4%). Students and teachers in these schools may have experienced considerable challenges when the COVID-19 pandemic interrupted classroom-based learning.

# WHAT WERE THE DIGITAL RESPONSES TO THE COVID-19 PANDEMIC?

As per the previous section, and according to a number of research reports (Cachia et al., 2021; European Commission, 2022a; Van der Graaf et al., 2021; Zancajo, Verger and Bolea, 2022), there was considerable variation in digital skills, equipment and learning resources among schools in European countries at the start of the COVID-19 pandemic. In many places, the sudden shift to distance learning served as an important push towards digital acceleration in education. Some countries took the opportunity to advance already planned reforms, and others started to revise curricula and teaching plans in order to strengthen the digital aspects of the syllabus.

> In **Belgium (Flemish Community)**, the *digisprong* plan builds on the immediate response to the COVID-19 crisis. A relaunch fund of EUR 375 million was awarded for ICT support for schools in 2021 (compared with annual ICT investment of EUR 32 million in 2019). The plan aims to create a future-oriented and secure ICT infrastructure for all compulsory education schools; a strongly supportive and effective ICT school policy; ICT-competent teachers and teacher trainers; and adapted digital learning resources. Investments are being made in the necessary framework for schools, including strengthening the role of ICT coordinators, developing digital services, and establishing a knowledge and advice centre for schools. The plan also includes various actions to provide high-quality digital teaching materials, with attention paid to cybersecurity and tackling cyberbullying ([5]).

Education systems across Europe tackled the challenges presented by the COVID-19 pandemic with new guidance, teacher training and allocation of additional funding.

Figure 4 reveals that education systems across Europe tackled the challenges presented by the COVID-19 pandemic with new guidance, teacher training and allocation of additional funding. Numerous training courses and guidance materials regarding how to organise distance teaching and learning were provided. Many additional resources were directed at schools, teachers and students to ensure the necessary digital infrastructure, connectivity and digital devices existed, as well as to enhance teachers' digital skills and competences. Only six European education systems have seen no changes to top-level recommendations, continuing professional development (CPD) or funding concerning digital resources in primary or lower secondary schools since the start of the COVID-19 pandemic.

Figure 4: Top-level changes in recommendations, continuing professional development (CPD) and funding concerning distance teaching and learning since the start of the COVID-19 pandemic, ISCED 1-2, 2020/2021
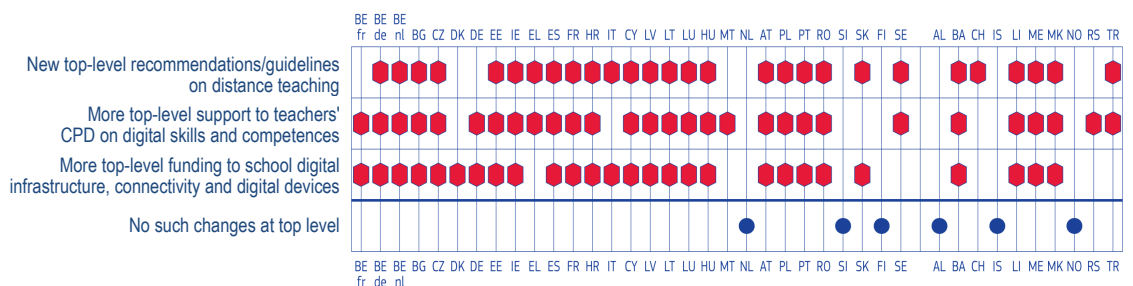
Source: Eurydice.

New guidelines or recommendations on how to organise distance teaching and learning were issued in 29 of the 39 education systems analysed. In most of these cases, the country's ministry of education launched a dedicated website for all information related to COVID-19 measures in schools, provided recommendations on delivering education

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([5]) https://onderwijs.vlaanderen.be/nl/...

remotely and provided numerous digital learning resources. A few countries (e.g. Portugal and Montenegro) also sent printed recommendations on the implementation of distance teaching to all schools.

In **Czechia**, several new methodological recommendations for different school types and education levels have been issued: 'methodical recommendations for distance learning' ([6]), 'recommendations for distance learning and mental health' ([7]), and pedagogical recommendations for the return of pupils to schools' ([8]). These recommendations focus predominantly on the procedures for adapting teaching to the needs of pupils, methods to help pupils who did not participate in distance learning and rules for evaluation.

Numerous training courses and guidance materials regarding how to organise distance teaching and learning were provided for schools.

> The **Lithuanian** National Agency for Education issued a detailed 'distance learning and teaching manual', which summarises recommendations and methodological suggestions to prepare schools for possible new outbreaks of COVID-19, application of blended/distance learning in the future, as well as new teaching methods and their proper implementation ([9]).

> The website of the **Hungarian** Educational Authority published recommendations on a number of digital teaching methods ([10]).

> The **Austrian** Federal Ministry of Education, Science and Research created a dedicated platform 'distance learning – all information for teachers, students and parents' and the 'digital school' portal to simplify communication between teachers, learners and parents ([11]).

> In March 2020, the **Polish** Ministry of Education and Science launched an education portal that contains various digital teaching materials and tools, a guide for schools on how to secure personal data during distance learning and a guidebook for headteachers and teachers on how to act in the context of temporary limitations on the operation of education system units ([12]).

> **Portugal** created the 'support to schools' website in 2020. It provides a comprehensive set of resources to support learning and school management, in order to enrich and enhance the teaching and learning process during this challenging time. It includes guiding principles for the implementation of distance learning in schools; guidelines on the use of technologies to support distance learning; guidelines on the work of ICT resource centres (focusing on the evaluation and prescription process); and guiding principles on pedagogical assessment in distance learning ([13]).

> The **Romanian** Ministry of National Education launched an information portal ([14]) that includes methodological guidelines for all levels of education.

Digital competences were already part of the initial education and CPD of teachers in many European countries (European Commission / EACEA / Eurydice, 2019). However, the need for training in the use of an online learning environment, distance teaching tools, digital learning materials and remote assessment methods increased when schools were not able to provide classroom-based learning due to the COVID-19 pandemic. The majority of European education systems (29 out of 39) reported allocating more top-level support to address the deficit in teachers' digital skills and competences.

> In **Czechia**, several webinars, newsletters, websites and videos on how to use digital learning resources were provided for teachers ([15]).

> In **Estonia**, thematic online seminars were organised for teachers ([16]).

([6])   https://www.edu.cz/wp-content/...
([7])   https://www.edu.cz/methodology/...
([8])   https://www.edu.cz/methodology/...
([9])   https://www.emokykla.lt/...
([10]) https://tudasbazis.ekreta.hu/...; https://moodle.up2u.kifu.hu/; https://www.oktatas.hu/kozneveles/...; https://www.oktatas.hu/pub_bin/...
([11]) https://www.bmbwf.gv.at/Themen/schule/beratung/corona/corona_fl.html
([12]) https://www.gov.pl/web/zdalnelekcje; https://www.gov.pl/web/edukacja-i-nauka/zdalne-nauczanie-uodo; https://www.gov.pl/web/edukacja-i-nauka/...
([13]) https://apoioescolas.dge.mec.pt/
([14]) https://educatiacontinua.edu.ro/
([15]) https://koronavirus.edu.cz

In **Spain**, in the call for network training courses for teachers for 2020/2021, specific courses related to distance teaching were included, for example distance teaching, design of learning experiences for distance education, evaluation of learning in distance education mode and the online tutor ([17]).

In **Poland**, a number of training courses aiming to improve teachers' distance teaching skills were continued or launched ([18]).

Several countries released additional funds for vulnerable students to acquire the lacking digital devices or connectivity.

Top-level authorities in 27 European countries provided additional funding ([19]) to acquire the lacking digital infrastructure, connectivity and digital devices for schools, teachers and students. This funding was to be used for connectivity, computers, tablets, accessories (docking stations, microphones, cameras, etc.), software, platforms and other related equipment or services. Several countries released additional funds for vulnerable students.

The **Greek** Ministry of Education provided a voucher worth EUR 200 per pupil/student from families that fulfilled certain financial criteria for the purchase of an electronic device for the pupils/students (tablet, laptop or desktop computer). This applied to 560 000 people aged 4–24 years.

Since the first quarter of the 2020/2021 school year, schools in **Spain** have lent up to 500 000 electronic devices with internet connection to the most vulnerable students to enable distance learning. This was financed by the central government through a EUR 16 000 million COVID-19 fund for the autonomous communities ([20]).

In **Italy**, urgent measures linked to the COVID-19 pandemic included additional financing of EUR 85 million aimed at the 'purchase of devices and individual digital tools for the use of integrated digital teaching activities, to be granted to less well-off students, also in compliance with the criteria of accessibility for people with disabilities, as well as for the use of digital platforms for distance learning and for the necessary network connectivity' ([21]).

To ensure that all students have the digital infrastructure necessary for distance learning, the Federal Ministry of Education, Science and Research in **Austria** procures notebook computers and tablets to be loaned, for a limited period, to secondary school students on the basis of need. The initiative is being implemented in ongoing close coordination with and with the support of the education directorates and school authorities ([22]).

In **Poland**, in April 2020, the Ministry of Education and Science launched a call for local governments to purchase ICT equipment needed by schools, teachers and students for the purpose of distance education. The remote school co-financing programme released PLN 150 million (approximately EUR 33 million) from the European Regional Development Fund under the digital Poland operational programme for 2014–2020. 90% of local governments applied for and received individual grants, ranging from PLN 35 000 to PLN 100 000 (approximately EUR 7 000 to EUR 22 000). The procedure was shortened and simplified, so that schools could quickly acquire the necessary equipment ([23]).

([16]) https://www.harno.ee/oppetoo-kriisi-ajal#veebiseminarid
([17]) https://www.boe.es/diario_boe/txt.php?id=BOE-B-2021-5947
([18]) https://lekcjaenter.pl/; http://www.doskonaleniewsieci.pl
([19]) See in European Commission (2022b) more on how EU Member States adapted their education investment to cope with the COVID-19 outbreak.
([20]) https://www.lamoncloa.gob.es/...
([21]) Art. 21 of Decree-Law 137/2020.
([22]) https://www.bmbwf.gv.at/Themen/schule/beratung/corona/...
([23]) https://www.gov.pl/web/...; https://ose.gov.pl/aktualnosci/...

WAS ADDITIONAL LEARNING SUPPORT PROVIDED TO TACKLE THE 'COVID-19 LEARNING LOSS'?

To counter the emerging learning loss experienced by children resulting from interrupted classroom-based learning, as well as the uneven impact of distance learning on students from different backgrounds or achievement levels, some education authorities have created new opportunities for learning support provision. Such measures have been implemented in about half of the education systems (Figure 5).

The most common response to newly emerging learning difficulties as a result of school closures was to organise or offer students additional small-group tutoring or differentiated learning (on top of existing measures). The support typically took place either during school holidays or after the formal school day, but in some cases also during the formal school day. Such measures were implemented and funded in Belgium (French and Flemish Communities), Czechia, Ireland, Spain (Castilla y León), France, Italy, Luxembourg, Austria, Poland, Romania and Slovakia. The Netherlands adopted a new, comprehensive top-level framework programme on providing support.

> **Belgium** (**French Community)** recommended the use of differentiated teaching and remedial support during the school day in both primary and secondary education ([24]) in order to provide additional support to students with difficulties after the school closures, and due to distance and blended learning.
>
> **Belgium (Flemish Community)** organised summer, autumn and winter schools during the 2020/2021 school year for lower secondary students, as they were the most affected by school closures or periods of blended learning. Similarly, summer schools were offered to students with learning difficulties in **Czechia** and **Luxembourg**. In Luxembourg, pupils could go to school in smaller groups during 2 weeks in the summer to receive further educational support from teachers or other educational staff.
>
> In **Italy**, in 2020, Ministerial Order 11 introduced extracurricular small-group tutoring for students at risk of school failure ([25]).
>
> In the **Netherlands**, the national education programme (*Nationaal Programma Onderwijs*) ([26]) was created with a focus on helping students catch up to prevent learning loss and low achievement. The programme started in the 2020/2021 school year with a budget of EUR 5.8 billion, evidence-based measures and a support structure.
>
> In **Austria**, the 'Corona support package' includes up to two additional support lessons per class in the main subjects.

In order to provide the adequate human resources for additional tutoring as well as reinforced counselling and psychological support, Belgium (Flemish Community), Spain (autonomous community of Andalucía), Poland and Portugal have made additional funding available for the temporary recruitment of supplementary staff – educators, psychologists, social workers, etc. – to enable schools to rapidly respond to students' needs.

> All educational centres in the autonomous community of Andalucía, **Spain**, have 'COVID-19 support teachers', who supported teaching work in schools as a reinforcement throughout the 2020/2021 school year ([27]).

Despite the large impact of the COVID-19 pandemic on students' learning experiences, only half of the education systems have put additional learning support measures in place.

([24]) Ministerial circulars n°7704 of 25/08/2020 and n°8220 of 20/08/2021.
([25]) Italian Ministry of Education Ministerial Order 11 of 16 May 2020.
([26]) https://www.nponderwijs.nl/
([27]) See https://www.adideandalucia.es/...

In Poland, a programme developed by the Ministry of Education and Science establishes rapid-response teams comprising counsellors, school psychologists, tutors, social workers, etc. The programme targets students severely affected by the COVID-19 crisis and aims to ensure a quick response to the deterioration of the mental health of students with learning difficulties ([28]).

Denmark and Finland have also distributed additional financial support to schools to address low achievement and learning loss due to the pandemic. In Finland, the additional funding targeted especially disadvantaged students (students not speaking the language of instruction at home, students from immigrant backgrounds and students with special educational needs) ([29]).

In Bulgaria, Czechia, Spain, Hungary, Portugal, Slovakia and Slovenia, top-level authorities issued new guidelines on adapting teaching content and/or the methods of assessment to the new reality. In Romania, guides have been created and made available for all teachers to help them address any delays in their students' learning, for all subjects in primary and lower secondary education. In Estonia, new diagnostic tests were developed to identify learning gaps.

Figure 5: Additional learning support measures and dedicated resources due to the COVID-19 pandemic, ISCED 1-2, 2020/2021
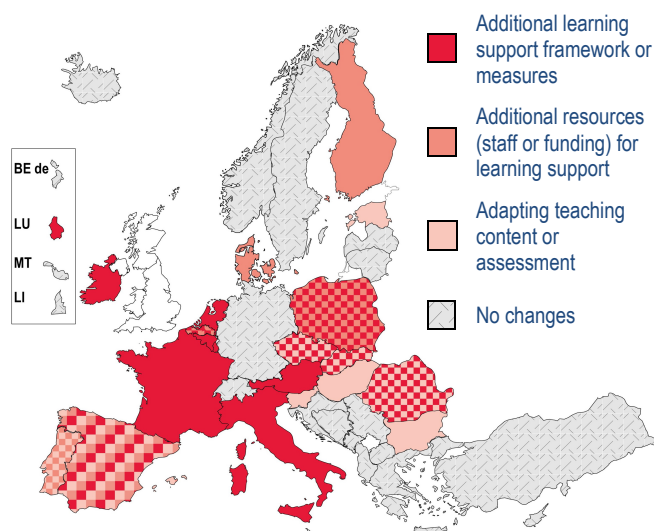
Source: Eurydice.

Explanatory note

The category 'additional resources (funding)' refers to situations where schools had the autonomy to decide on the form of learning support, but top-level authorities provided additional funding to them to address low achievement.

([28]) See the website of the Polish Ministry of Education and Science for more details.
([29]) See the website of the Finnish Ministry of Education and Culture for more details.

CONCLUSION

This paper provided a brief insight into the impact of the COVID-19 pandemic on the organisation of school education and reviewed key policy responses implemented by European education systems to tackle emerging difficulties in teaching and learning.

Schools across Europe remained largely open during the 2020/2021 school year, although almost all education systems had to switch to distance learning and/or blended learning for part of the school year. Complete school closures were rather rare and of relatively short duration (generally immediately before or after school holidays). Both distance learning and blended learning were used more in grade 8 than in grade 4, leading to concerns about the older students' school careers and overall well-being.

Overall, the rapid shift to distance or blended learning revealed large differences in the levels of digitalisation between countries as well as the digital capacities of schools, teachers and learners. Survey data indicate that in 2019, most schools in Europe had a certain number of digital devices available. However, in the EU, 18.5% of grade 4 students were enrolled in schools where at least five students had to share one computer. In addition, 3.8% of students had no access to computers at school whatsoever. Before the pandemic, an online learning management system was used in approximately half of schools.

Top-level authorities in almost all European education systems responded with new measures to upgrade digital resources and address competence gaps. Guidelines for schools and teachers concerning distance teaching and learning were drafted and published on the websites of ministries of education or on dedicated information portals. Additional top-level support was allocated to address teacher-training deficits. Moreover, top-level authorities provided considerable public resources to strengthen the digital education infrastructure and schools' technological resourcing. Several countries reported targeted funding to provide digital devices to disadvantaged students.

Half of European education systems have also put additional learning support measures and programmes in place, or have dedicated additional resources to tackle the 'COVID-19 learning loss'. Examples include additional opportunities for students to catch up during or outside the formal learning time, funding provided for the recruitment of additional teaching and support staff, and changes in teaching content and student assessment.

This paper discussed some of the general responses to the COVID-19 pandemic. It should be noted, however, that many education systems also adapted certain aspects of teaching and learning for specific subjects. Changes in mathematics and science subject teaching related to the COVID-19 pandemic are discussed in the report 'Increasing achievement and motivation in mathematics and science learning in schools' (European Commission / EACEA / Eurydice, 2022).

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ANNEX: ADDITIONAL INFORMATION BY EDUCATION SYSTEM

Data by country – Different forms of school organisation in the context of the COVID-19 pandemic, grades 4 and 8, 2020/2021 (see Figure 1)

GRADE 4

Co-existence of two items — Schools open for classroom-based learning — Distance learning for all students

Blended learning (classroom-based and distance learning is alternated for the same students) — Schools closed for all students (not even distance learning)

Source: Eurydice.

GRADE 8

2020

September / October / November / December

BE fr BE de BE nl BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE   AL BA CH IS LI ME MK NO RS TR

2021

January / February / March / April / May / June

BE fr BE de BE nl BG CZ DK DE EE IE EL ES FR HR IT CY LV LT LU HU MT NL AT PL PT RO SI SK FI SE   AL BA CH IS LI ME MK NO RS TR

◇ Co-existence of two items   ■ Schools open for classroom-based learning   ■ Distance learning for all students

■ Blended learning (classroom-based and distance learning is alternated for the same students)   ■ Schools closed for all students (not even distance learning)

Source: Eurydice.

Country-specific notes

Belgium (BE fr, BE nl): Schools were closed for 4 extra days before the week of autumn holidays (in November) and for 1 week before the spring holidays (end of March to early April).

Belgium (BE de): Schools were closed for 1 week before the week of autumn holidays (in November). Before the spring holidays (end of March to early April), there was 1 week of full-time closure of primary schools and 1 week of full-time distance learning for lower secondary schools.

Bulgaria: In March, distance learning applied in grade 4 from 22 to 31 March. Grade 8 students attended classroom-based learning until 13 November, and then had distance learning.

Czechia: For students in grade 4, distance learning started on 14 October. From 12 April, blended learning was in place. In small schools, full classroom-based learning was allowed. Distance learning also started on 14 October for students in grade 8. Blended learning was used from 3 May in some regions and from 10 May in all regions. Full classroom-based learning for primary and lower secondary schools started on 17 May (and in some regions in grade 8 from 24 May).

Germany: School closures or suspensions of compulsory attendance are handled differently in the various *Länder*. Therefore, the data used are rough approximations

Estonia: Grades 1–4 had distance learning from 11 March until 2 May. Grade 8 had distance learning from 1 March until 16 May.

Ireland: In March, grade 4 students returned to school after the holidays on a phased basis.

Greece: The school year started on 14 September for all students of primary and lower secondary education (i.e. 1 week later than planned). Primary schools closed (and provided distance learning) from 16 November until the end of the month. They reopened in December, closed (with distance learning) again on 10 February and reopened on 10 May. Lower secondary schools closed (and provided distance learning) from 16 November until 10 May.

France: All primary schools were closed and provided distance learning from 6 to 9 April. For grade 8 students, distance learning was implemented from 6–9 April and 26–30 April.

Italy: The organisation of schooling (for all grades) was managed at national level, with regional differences based on the pandemic risk and, at the same time, on regional emergency legislation.

Latvia: In June, the school summer holidays started.

Lithuania: Primary education was classroom-based until 14 December. Between March and June, municipalities and primary schools could decide, based on the intensity of the COVID-19 pandemic and on parental agreement, how to organise learning (in person, distance or blended). In lower secondary education, classroom-based learning was encouraged in May and June; however, schools decided to finish the school year using distance learning, taking into account parents' opinions.

Luxembourg: From 4 to 8 January (immediately after the Christmas break) and from 8 to 12 February (the week before the February break), all schools and all education levels were using distance learning.

Hungary: Distance learning applied from 8 to 31 March. The school year ended on 15 June.

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Malta: The school year started in October. All students in compulsory education experienced a period of distance learning between 15 and 30 March. Schools reopened for classroom-based learning on 12 April, after the Easter break (31 March to 11 April).

Netherlands: All schools closed on 16 December and switched to distance learning for the majority of students in primary and lower secondary education. From March, all lower secondary students had to physically attend school at least 1 day a week. From 7 June, all lower secondary schools were fully open to all students.

Austria: Students were generally in distance learning from 17 November to 6 December, and from 7 January to 7 February. Schools were open mainly for supervision and educational support. From 8 February to 16 May, lower secondary students were divided into groups, which took turns attending classroom-based learning. All Fridays were distance-learning days.

Poland: From 24 October, distance learning was used for students in grades 4–8. From 17 to 30 May, blended learning was used for students in those grades.

Portugal: Educational and teaching activities were suspended as of 22 January. They resumed from 8 February, on a distance-learning basis. Primary schools returned to face-to-face education on 15 March; lower secondary schools returned to face-to-face education on 5 April.

Romania: From 20 October, students moved from a blended to a distance-learning system. The Easter break (April 2021) was extended by 2 weeks to increase the possibility of in situ learning when students returned.

Slovenia: Students in grade 4 had distance learning from 9 November until 15 February. Students in grade 8 had distance learning from 19 October until 15 February. On 1 April, schools were closed again and all students had distance learning until 9 April.

Slovakia: At primary education level, distance learning applied from 11 January. From 8 March until 12 April, distance learning was again the norm. At lower secondary level, distance learning started on 26 October. From 7 December, in situ learning was allowed again, but depended on the local pandemic situation. From 17 May, in situ learning was allowed in all schools.

Finland: Schools have been mainly open; however, there have been occasional distance-learning periods in some regions. The summer holidays were in June.

Sweden: There were no national recommendations on school closures for grades 7–9, but in spring 2020 a new law and a temporary ordinance were passed enabling school organisers to close schools partially or entirely and switch to distance learning. A survey carried out by the Swedish National Agency for Education in mid-January shows that two thirds of all school organisers (municipal and independent schools) had partially or entirely changed to distance learning for grades 7–9.

Bosnia and Herzegovina: During January, schools were closed for winter holidays. In June, the summer holidays started.

Iceland: Apart from 2 school days before the Easter break in March 2021, compulsory schools were open.

Montenegro: From 15 March, primary school classes were held in a blended-learning format. From January, all lower secondary schools were able to organise in-school classes for grades 6–9 according to the school's capabilities. In March, classes in almost all municipalities were held online for grade 8 students.

North Macedonia: Teaching started on 1 October (i.e. with a 1-month delay). During the entire school year, most grade 4 and 8 students had distance learning. Exceptions were made upon the decision of the government and with the agreement of the parents; this applied to only a small number of schools in rural settings and schools with small numbers of students.

Norway: Top level regulations allowed the schools to be open, but may have been closed from 3 to 19 January.

Serbia: Primary schools generally remained open during the school year, but with adaptations. For example, every class was divided into two groups (with up to 15 students each), and classes lasted for 30 minutes instead of 45 minutes. Lower secondary schools mainly applied blended learning. During December and March, distance learning applied only in lower secondary education.

Turkey: From 20 November, grade 4 students had distance learning. Grade 8 students started school on 2 October. In February, school holidays were extended so that teaching took place for only half a month. All lower secondary schools began distance learning on 15 April.

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Teaching and learning in schools in Europe during the COVID-19 pandemic

Eurydice Brief

Schools and pupils across Europe were heavily affected by the measures taken by various authorities to limit the spread of the COVID-19 pandemic. While complete school closures were rather rare and of relatively short duration, the rapid shift to distance or blended learning revealed large differences in the levels of digitalisation between countries as well as the digital capacities of schools, teachers and learners.

This report provides a brief insight into the impact of the COVID-19 pandemic on the organisation of school education and reviews key policy responses implemented by European education systems to tackle emerging difficulties in teaching and learning. The results highlight, among other things, the importance of offering students additional small-group tutoring or differentiated teaching to help those experiencing difficulties due to distance learning. At the same time, the analysis also shows how, in many places, the sudden shift to distance learning served as an important push towards the acceleration of school digitalisation.

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