KEY ENGAGING EDUCATIONAL PRACTICES USED BY SECONDARY SCHOOL TEACHERS TO KEEP CONNECTED WITH THEIR STUDENTS FOLLOWING COVID-19 PANDEMIC

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EDUCATION AND THE COVID-19 PANDEMIC

A SITUATIONAL REVIEW OF FIVE REGIONS

WP1 Delivery of the KEEP project: Key Engaging Educational Practices used by secondary school teachers to keep connected with their students following the COVID-19 pandemic

KEEP CONSORTIUM

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1 Introduction

The COVID-19 pandemic has led to one of the most abrupt interruptions of education in Europe in recent history. From March 2020 onwards, the majority of European countries installed lockdowns, and schools were closed. Schools and teachers did their utmost best to organise distance learning, but they went into uncharted and challenging territory.

Research shows that school systems were not very well prepared for remote learning (OECD, 2020b; Van de Werfhorst et al., 2020). Moreover, the COVID-19 pandemic has disrupted every aspect of young people's lives in an unprecedented manner. The overall result was that the young people who were living in a vulnerable situation were affected most. Indeed, besides the effect of all elements of material deprivation (e.g., small and uncomfortable houses) and the lack of income in some families due to lockdown related unemployment, remote learning also implied that two spheres (i.e., school and home) that in normal times were more or less separated, got closely intertwined. In this way, problems arose that in pre-COVID-19 times simply did not exist. In Belgium-Flanders, for example, discussion arose concerning whether pupils could be obliged to put their cameras on during collective e-learning moments. Soon testimonials of pupils who did their homework on a smartphone or who missed classes because of the fact that one of their family members had to use the home computer reached the news. In many countries schools struggled to stay in contact with all pupils and stories circulated about pupils who went off the radar. Practical problems such as the availability of a quiet place to study, a computer or other device, and access to a stable (broadband) Internet connection, implied that material deprivation could have a much stronger effect on educational outcomes than before.

Moreover, for specific types of education, the consequences of school closures were more severe. Remote learning is indeed much more feasible for general education when compared to vocational education where work experience and the opportunity to work with specialised machines are crucial. Moreover, we know that the pupils enrolled in vocational education have a much higher likelihood of showing low levels of school engagement, higher levels of school absenteeism, and a higher risk of early school leaving. For all these reasons, it is likely that the pandemic has hit vulnerable groups disproportionately and is likely to exacerbate existing inequalities.

The COVID-19-pandemic, however, also entailed opportunities. The digital transformation, for example, got strongly boosted. What in normal times would have taken years, was now accomplished in a short period of time, and by now there seems to be a clear sense of urgency among governments for further improvements in this context. Teachers and school staff showed high levels of creativity to limit learning losses and a lot of materials for remote learning have been developed. The most important task now is to (1) learn from the experiences in different countries and (2) align short-term emergency responses with investments into long-term educational objectives, so that we can take full advantage of the opportunities of this COVID-19 pandemic.

Against this background, this report focuses on the different policy responses in four countries (5 regions) in Europe, namely Belgium-Flanders, Belgium-Wallonia, France, Greece, and Poland. It aims to bring together and provide a narrative review of different policy responses. The observation period runs from March 2020 to May 2021 (the end of the school year 2020-2021) and the primary focus is on secondary education.

The remainder of this report is organised as follows. First, we give a brief description of our methodology and subsequently describe the educational systems that we study. Next, we give an overview of the pre-COVID-19 situation in terms of, on the one hand, school absenteeism and early school leaving and, on the other hand, the digitalisation of education. This pre-COVID-19 situation sketch provides a clear view of the different starting positions of each educational system when entering the pandemic. Then, we discuss how the COVID-19 pandemic unfolded in the countries (school closures, etc.). This is followed by a description of various challenges that COVID-19 posed to the educational systems. We have organised all this into four broad topics and discuss how the regions we study have coped with these challenges.

2   Method

This report is based on intensive desk research: data were gathered in two ways. First, we performed a literature review. We paid specific attention to reports that adopted a comparative perspective. Institutions like EURYDICE provide excellent comparative information about the structure and organisation of education in European countries and more specific documentation about topics like digital education, early school leaving, and tackling school absenteeism. These reports provide a good source to describe the starting position of the regions that we study when the COVID-19 pandemic started. Regarding the latter, organisations like the OECD or UNICEF have organised surveys that assessed country policies' responses to the COVID-19 pandemic and descriptive data concerning the educational challenges related to this pandemic (OECD, 2020b, 2020a, 2021a, 2021b). We not only used the information from the reports published on these data. The OECD also provided access to their original database of the *Special Survey on COVID-19* so that we could select data for our four countries that were not discussed in the OECD's original reports.

Typical for these reports, however, is that they provide a good helicopter view by presenting information in a more standardised way thereby sometimes neglecting some particularities of the local context. Therefore, this report seeks for the four countries (five regions) that we study to complement this information with more contextual information. It starts from the idea that educational systems are first and foremost *systems* with interrelated elements. Getting a good grip on these systems and how they responded to an unprecedented challenge like the COVID-19 pandemic, requires more context information to be included. To that end, secondly, we developed a questionnaire with open questions that was sent to the members of the KEEP consortium. This questionnaire provided additional background information and more specific information concerning the different strategies followed by the governments of the four countries (five regions) that we study in this report. The information was gathered iteratively. After the first round of data collection, the researchers analysed the data and wrote a first draft of the report. The participating partners commented on this first draft and provided additional information to fine-tune the results.

This report focuses on the period starting in March 2020 when many countries decided to go into lockdown and school closures were installed, and ending in May of 2021 when most schools were opened again. This also implies that the school year 2021-2022 falls outside of the observation period. We focus on secondary education although at specific points it was also pertinent to include

information regarding education in the last year of primary education. Finally, we focus on the country/regional level. This means that we searched for general patterns while conducting a study on educational policies. More specific school policies, innovative teaching practices, and technological tools are studied in other work packages of the KEEP project.

Regarding the way of reporting, each section is built in a similar way. We first provide a short introduction, referring to observations that were made by international comparative studies. Subsequently, we provide relevant observations for each region. This also implies that depending on the region slightly different topics are addressed due to the availability of information or the particularities of the regional situation (e.g., having national exams). In this way, we aimed to pay justice to the particularities of the context and (aimed) to provide as much relevant information as possible. We present the countries in alphabetical order.

3   Country description

In this report, we study five regions/countries, namely Belgium-Flanders, Belgium-Wallonia, France, Greece, and Poland. As in Belgium, the communities are responsible for most aspects of education, we distinguish - where relevant - between Belgium-Flanders and Belgium-Wallonia[1]. The following – based on information gathered by Eurydice – provides a brief description of the different educational systems that we will study. We focus primarily on these characteristics of educational systems that are relevant to our research topics. More information can be found on the Eurydice website. A schematic overview of the organisational structure of education is provided in the Appendix.

3.1   Belgium (Belgium- Flanders and Belgium-Wallonia)

As indicated at the start of this section, in Belgium, with the exception of three competencies[2] which remained a federal matter, the communities are responsible for educational policies. Belgium has three communities: the Flemish, the French, and the German. The German community is very small and is not studied in this report. Although educational policies in both the Flemish and French communities are sometimes quite different, the similarities in the structural characteristics of the educational organisation – the characteristics we focus on in this section – are substantial. Moreover, as in the capital region of the country (Brussels), French and Flemish schools are geographically mixed, in practice the policy measures of both communities are to a considerable extent attuned to each other. The elements below apply to both communities.

Education in Belgium is compulsory from the age of 5 until 18. Young people must attend full-time compulsory education until the age of 15. From 15 onwards pupils may engage in part-time schooling and opt for a structured learning path that combines part-time vocational education in an educational

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[1] This practice corresponds with the fact that in OECD reports both communities are also discussed separately.
[2] These include the determination of the beginning and end of compulsory education, the minimum requirements for the issuing of diplomas, and the regulation of retirement for employees in the educational system.

institution with part-time employment. All young people in part-time education are obliged to take part in learning and working for at least 28 hours a week. Compulsory education in Belgium, however, does not equal the duty to attend school. Parents may choose home schooling for their children. Less than 1% of the pupils opt for the latter choice, all the others attend school to follow education.

In Belgium, education and training organised by the government is called official education; education and training organised by a private person or organisation is known as free education (Government-aided private education). A small number of schools are not recognised by the government. These private schools do not receive funding from the government. In both communities there are three educational networks:

- public education is the official education organised by the Flemish/French Community. The constitution prescribes a duty of neutrality.
- government-aided public education comprises schools run by the municipal or provincial authorities.
- government-aided private education is organised by a private person or organisation. The network consists primarily of catholic schools. Next to denominational schools, it includes schools not linked to religion, e.g., alternative schools (based on the ideas of Freinet, Montessori, or Steiner) that apply specific teaching methods.

Secondary education in Belgium is organised for young people aged 12 to 18. Full-time secondary education contains three stages and various types of education. Each stage consists of two grades. In the first stage of secondary education, a common curriculum is offered. Pupils make a choice of study only at the start of the second stage. From the second stage onwards four different types of education are offered. In Belgium-Flanders, for example, a pupil chooses a course of study within one of the following types/tracks of education:

- general secondary education (gse), which focuses on broad general education. It does not prepare pupils for a specific profession, but rather prepares them for higher education.
- in technical secondary education (tse) attention goes in particular to general and technical-theoretical subjects. After tse young people may practise a profession or transfer to higher education. This type of education also contains practical training.
- secondary education in the arts combines a broad general education with an active practice of art. After secondary education in the arts, young people may practise a profession or transfer to higher education.
- vocational secondary education (vse) is a practically-oriented type of education in which pupils receive general education but where the focus primarily lies on learning a specific profession. In the third stage of vocational secondary education, the successful completion of a third grade is necessary in order to obtain the certificate of secondary education. In the last two years, pupils can opt for partial vocational education and combine working with attending school for one or two days a week.

In Belgium, a certificate of upper secondary education grants unrestricted access to higher education. In technical secondary education and secondary education in the arts, labour market-oriented programmes can be organised after the second grade of the third stage. Since 2009-2010 these programmes are grouped under the heading of Secondary-after-Secondary (Se-n-Se). Se-n-Se programmes last one to three semesters and are organised by schools of secondary education. After successfully completing a Se-n-Se programme a pupil is granted a certificate.

3.2   Belgium - Wallonia

In Belgium-Wallonia the educational tracks are similar to those in Belgium-Flanders (see Appendix). Therefore, we will not repeat this information here. It is much more important to stress that education in Belgium-Wallonia is being thoroughly modernised. Education in Belgium-Wallonia was breaking records in terms of school dropout and repetition. At the age of 15, its pupils have already repeated 4 times more than the average OECD pupils and 2 times more than Flemish pupils. As a reaction, a reflection on education began in January 2015 which resulted in the "Pact for excellence in education" (le "Pacte pour un enseignement d'excellence), presented in March 2017. This is the most important reform project of the school system since the 1970s. At least two legislatures will be needed to implement the Pact. This ambitious reform project derives its legitimacy from the long consultation work carried out by the social actors of the school. Besides 'improving the performance of the education system' and 'reducing inequalities', the Pact aims to reduce the failure rate and school dropout rate by 50% by 2030. It also sets as a priority objective to improve the performance of the educational system and reduce inequalities in pupil outcomes.

The Pact is a response to three challenges: (1) demographic growth, (2) overcoming the digital transition, and (3) improving the equity, effectiveness, and efficiency of the school system, in other words, the quality of the school system. The main measures and initiatives of the Pact are:

- a new pathway for all pupils: massive reinforcement for nursery education; a broadened and lengthened core curriculum from age 3 to 15; two single streams/tracks (transition and qualification) from age 15 to 18; new proposals to promote success and raise the level of pupils; school rhythms in the interest of the pupil.

- better supported educational actors: better-trained teachers working as a team; management teams with the means to act; new governance: less administration and more pedagogy.

In March 2017, the core group published a summary of the five strategic axes around which the orientations and concrete initiatives it advocates are grouped:

- Axis 1: Teach the knowledge and skills of 21st-century society and encourage the pleasure of learning, thanks to reinforced nursery education, a polytechnic, and multidisciplinary core curriculum, and a revised and redefined learning framework.

- Axis 2: Mobilise the actors in education within a framework of increased autonomy and responsibility by strengthening and contractualising the steering of the education system and schools, by increasing the leadership of the headmaster, and by enhancing the role of teachers within the collective dynamics of the school.

- Axis 3: Make the qualifying pathway/track a pathway of excellence, enhancing the value of each pupil and enabling successful socio-professional integration, while strengthening its management and simplifying its organisation.

- Axis 4: In order to improve the role of education as a source of social emancipation while focusing on excellence for all, promote co-education and inclusive schooling throughout the education system while developing strategies to combat school failure, dropping out, and repeating years.

- Axis 5: Ensure that every child has a place in a quality school, and develop school organisation to make schools more accessible, more open to their environment, and better adapted to the conditions of children's well-being.

The governance framework devised by the Pact for Teaching Excellence provides for each school to contribute to the objectives of improving the school system through the development of a steering plan and its contractualisation with the regulatory authority. The Pact also proposed a specific mechanism for schools in particular difficulty, requiring special support.

A pilot experiment, launched in 2017 and still running, has enabled some twenty schools to enter into such a scheme, on a voluntary basis and with the support of their federation of organising authorities. This "schools in adjustment phase" (écoles en dispositif d'ajustement) will concern about twenty other schools from the school year 2021-2022. The schools to which the scheme will apply are those which, in terms of four indicators, are furthest from the average for schools with the same profile and belonging to the same socio-economic class group. These four indicators relate to the results and progress of pupils, the school climate, and the teaching staff. The regulatory authority provides various forms of assistance and support, in particular through the support of a team of 'support agents'. The schools that participated in the pilot experiment also benefited from the support of specialised non-profit organisations and research programmes conducted by university teams. These are EBR (Evidence-based research) programmes, i.e. programmes that are scientifically validated and characterised by their innovative character. They are selected by the Administration to provide specific assistance in areas related to the indicators that led to the identification of the schools[3].

3.3   France

The French education system is characterised by a strong central State presence in the organisation and funding of education. The French education system is regulated by the Department for National Education, Higher Education, and Research. It governs within the framework defined by the Parliament, which states the fundamental principles of education. The French education system is centralised. The state defines the details of curricula at all education levels; it organises the teachers' admissions procedure, defines the content, recruits teachers who become civil servants, provides them with in-service training; it recruits and trains inspectors, responsible for controlling the quality of the education system. Nevertheless, at the local level, and since the start of a process of decentralisation of competencies in the administration of the educational system in the 1980s, local authorities have been playing an increasingly significant part in governance, ensuring the material operation of the system (construction and maintenance of school buildings, school transport, supply of educational materials, etc.). Besides the public education system, the state also subsidises 'private schools under contract' which receive, according to Eurydice, approximately 20% of school pupils.

Education in France is compulsory between the age of 6 (i.e., the start of primary education) and 16. French pupils are taught the same subjects until the age of 15 within a "collège unique". The first stage of specialisation occurs at the end of collège (lower secondary education): pupils are streamed to attend either a general, technological, or vocational lycée. All prepare pupils to take the baccalauréat in three years, marking the end of secondary education: pupils who pass this exam obtain the State-issued baccalauréat diploma (general, technological, or vocational) which opens up access to higher education and entitles them to enrol at university.

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[3] Opération de sauvetage pour écoles en décrochage | L'Echo (lecho.be)

Secondary education in France is divided into lower secondary school and upper secondary school levels. Lower secondary education (ISCED 2) is provided in *collèges* for 4 school years (pupils between 11 and 15). Education in *collèges* is compulsory and common to all pupils. The end of the lower secondary education is sanctioned by the *Diplôme national du brevet (DNB)*; however, admission to the upper secondary level is not conditional upon success in the DNB. At the end of *collège*, the school recommends the appropriate scholastic path to families, basing its recommendation on each pupil's school reports and particular interests.

Upper secondary education (ISCED 3) comprises 'general and technological *lycées'* and 'professional *lycées*', which extends over 3 years (pupils between the ages of 15 and 18 years). Upper secondary education provides three educational paths: general education (which prepares pupils for long-term higher studies), technological education (which mainly prepares pupils for higher technological studies), and professional education (which leads mainly to active working life but also enables them to continue their studies in higher education). The end of upper secondary education is sanctioned by the *baccalauréat*, and access to higher studies is conditional to its obtention. Pupils at professional *lycées* can prepare for the *Certificat d'aptitude professionnelle* (CAP – Professional aptitude certificate), a course of study extending over 2 years, after which they can either integrate active working life or prepare for the professional baccalauréat in one year.

3.4 Greece

The Greek educational system is centralised. National laws, presidential decrees, and ministerial acts are prevalent within it. The Ministry of Education and Religious Affairs is the central administrative body of the education system. It takes the key decisions related to long-term objectives and also regulates various issues, such as curricula content, staff recruitment, and funding. At the regional level, the regional educational directorates oversee the implementation of the national educational policy.

In recent years the Ministry of Education and Religious Affairs has implemented a series of policies and initiatives aimed at improving the effectiveness and efficiency of education in both content and procedures[4]. Therefore, the educational system in Greece is mainly characterised by its versatile character, which is ordained by the numerous laws and decrees of the Greek Ministry of Education and Religious Affairs. Over the years, the Ministry has made significant changes to the education system, most of which were mandated by the wish of each government to adopt recent scientific findings and acclaimed education models of other countries in the world. Adapting state-of-the-art research in the field of education, as well as foreign education practices to meet the needs of the Greek society and labour market has resulted in a multi-layered education system, which caters for all pupils in the country.

In Greece education is compulsory between the age of 4 and 15. Most pupils in Greece attend public schools of all levels, for which there are no tuition fees while, according to the Hellenic Statistical Authority, between 4 and 6.5% of the pupil population enrols in private schools of all levels.

The Greek educational system is mainly divided into three levels: Early childhood & primary/special education, secondary and tertiary, with an additional post-secondary level providing vocational

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[4] https://eacea.ec.europa.eu/national-policies/eurydice/content/ongoing-reforms-and-policy-developments-27_en

training. Secondary education in Greece consists of two cycles of study. The first one is compulsory and corresponds to *gymnasio* (lower secondary school). It lasts 3 years (theoretical age: 12-15) and provides general education. Successful accomplishment of this education is a prerequisite for enrolling in general or vocational upper secondary schools. Parallel to imerisio (day) gymnasio, esperino (evening) gymnasio operates. Attendance of this type of education starts at the age of 14.

Age 12-15 *(COMPULSORY)*
- Junior High school (Gymnasio) - public
- Evening Junior High School (Esperino Gymnasio) - public
- Experimental Junior High School (Piramatiko Gymnasio) - public
- Model Junior High School (Protipo Gymnasio) - public
- Music Junior High School (Mousiko Gymnasio) - public
- Arts Junior High School (Kallitechniko Gymnasio) - public
- Multicultural Junior High School (Gymnasio Diapolitismikis Ekpaideusis) - public

The second cycle of secondary education is the optional geniko or epangelmatiko *lykeio* (general or vocational upper secondary school). This lasts 3 years. Pupils enrol in this type of education at the age of 15. There are two types of education. Geniko (general) lykeio (3 years) includes both common core subjects and optional subjects of specialisation. Epangelmatiko (vocational) lykeio offers two cycles of studies: the secondary cycle and the optional post-secondary cycle, the "apprenticeship class". Parallel to day lykeia, there are also Esperina genika (evening general) lykeia and Esperina epangelmatika (evening vocational) lykeia.

Age 15-18
- General High school Geniko Lykio
- General Evening High School Esperino Geniko Lykio
- Experimental High School Piramatiko Geniko Lykio
- Model High School Protipo Geniko Lykio
- Music High School Mousiko Lykio
- Arts High School Kallitechniko Lykio
- Multicultural High School Lykio Diapolitismikis Ekpedefsis

Vocational education
- Vocational High School Epagelmatiko Lykio
- Vocational Evening High School Esperino Epagelmatiko Lykio
- Model Vocational High School Protipo Epagelmatiko Lykio
- Vocational Training Schools Scholi Epagelmatikis Katartisis

During both cycles, there is also special education provided for pupils with special needs (i.e., Eidiko Gymnasio and Ergastirio Epagelmatikis Ekpedefsis & Katartisis).

All levels are overseen by the Ministry of Education and Religious Affairs. The Ministry exercises centralised control over state schools, by prescribing the curriculum, appointing staff, and controlling

funding. Private schools also fall under the mandate of the Ministry, which exercises supervisory control over them. All levels of education are catered for by both private and public schools. State-run schools and universities do not charge tuition fees and textbooks are provided free to all pupils. There are also a number of private tutorial schools, colleges, and universities operating alongside the state education and providing supplementary tuition. These parallel schools provide foreign language tuition, supplementary lessons for weak pupils as well as exam preparation courses for the competitive exams at the national level. Most of the pupils typically attend such classes (and examinations) at the tutors' schools in the afternoon and evening in addition to their normal schooling.

Vocational education

A holistic reform is being implemented in Vocational Education and Training and Lifelong Learning (law 4763/2020), which starts from three principal axes:

- Axis 1: The joint strategic planning of Vocational Education and Training and Lifelong Learning. With distinct levels of qualifications, to avoid overlapping structures and services. In this context, a National Vocational Education and Training System is established, which extends over levels 3, 4, and 5 of the National Qualifications Framework, in line with those of the European Qualifications Framework.

- Axis 2: A more direct and effective interconnection of Vocational Education and Training and Lifelong Learning with the real needs of the labour market, through the effective participation of social partners.

- Axis 3: The upgrade of the (initial and continuing) vocational education and training, at the level of structures, procedures, curricula, and certification.

The reform took several sources into account including the recommendations of the European Commission related to skills development, the European Framework for Quality and Effective Apprenticeship Schemes, the Draft Recommendation concerning Vocational Education and Training, the European Semester, the European Skills Agenda, CEDEFOP studies, social partners, etc. The aim of the reform is an improved education, which:

- On the one hand, will produce multi-level professional qualifications and strengthen human resources to enter the labour market with high expectations.

- On the other hand, will use three basic institutions, in a rationalised way and within a feedback framework: 3 parties (state, pupils/trainees / employees, employers), a mechanism for monitoring and weighing professional qualifications and certification of specific qualifications that will enhance the growth potential of businesses and the economy in general and increase productivity as well as economic growth.

An institutional change concerns the scope of formal education:

- Second Chance Schools,
- Vocational Training Institutes,
- Vocational Apprenticeship Schools of the Manpower Employment Organisation and the apprenticeship year now fall into the scope of formal education, while non-formal education comprises Lifelong Learning Centres and Colleges only.

Pupils who want to follow tertiary education must take the Panhellenic National Examinations. These exams are held after the pupils have received their certification for secondary education. Pupils who passed these examinations can enrol into a specific Higher Educational Institute based on the Orientation and Group chosen. Vocational education and training pupils with technical interests enter a vocational upper secondary school (EPAL). The Vocational secondary school lasts three years and is focused on technical, vocational subjects, and workshop exercises. There are also vocational training institutes (IEK) at the upper secondary level providing a formal but unclassified level of education. Teaching at IEK is based on vocational specialisation. Tertiary education in Greece's Higher Educational Institutes consists of two parallel sectors: the Universities and the Technological Educational Institutes. In addition, colleges collaborating with foreign universities can offer undergraduate and postgraduate foreign programmes of study in Greece, under the proper registration with the Greek Ministry of Education. Usually, these programmes are provided following franchise or validation agreements with universities established in other European Union countries, primarily in the UK, leading to degrees that are awarded directly by those universities. In some cases, these institutions are wholly owned and operated branch campuses of foreign institutions.

Private education
- There are public and private schools in primary education and secondary (lower and upper) education.
- Public and private institutions of vocational education
- According to article 16 of the Greek constitution private tertiary education was not allowed in Greece. However, there were some Laboratories of Free Studies, often franchises of foreign universities, sometimes non-profit organisations, which advertised themselves as private universities or as centres from public universities abroad.
- Following changes in the Greek legislation, in 2008 and 2010, private organisations, referred to as colleges, have been authorised to offer foreign undergraduate and postgraduate programmes under the monitoring of the Greek Ministry of Education, for example.

3.5   Poland[5]

In Poland educational policy is a responsibility of a combination of the centralised government and local authorities. The latter is responsible for school administration.
Full-time compulsory education in Poland lasts for nine years. It comprises the last year of pre-school education and eight years of education in primary school (single structure education). In the Polish educational system full-time compulsory education (obligation to attend 8-year primary school - single-structure education) applies to pupils aged 7-15 years. Part-time compulsory education

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[5] Please note that during the period covered by this report, Poland had a significant change as it came to the Ministry responsible for education on lower level (up to secondary school) and upper level (for all the issues regarding academic education). Before October 2020 - Poland had two separate official bodies (MEN - Ministry of National Education and Ministry of Science and Higher Education - and Poland had separate laws and regulations). Since October 2020 when there was a merge, we should report actions and regulations made by one - Ministry of Education and Science - abbreviation MEiN. This implies that the first time of school lockdown was guided by MEN's regulations, and then after October 2020 by MEiN's.

(obligation to be in education) concerns pupils aged 15-18 and it may take place either in school settings (a pupil attends upper secondary school) or in non-school settings (e.g., a pupil follows vocational training offered by employers).

The Polish education system is in transition. Since the political transformation in 1989, the Polish education system has undergone important changes that are related to almost all aspects of education. The most relevant for our research topic is the instalment of external examinations which are carried out at the end of compulsory education (on completion of a single-structure 8-year primary school (ISCED 1 and 2) and on completion of general and vocational upper secondary schools (ISCED 3). The exams are high-stake ones influencing the choice of a pupil's educational and/or vocational path. They are prepared and evaluated by external bodies/evaluators. The examination concluding compulsory education is obligatory for all pupils, while the upper secondary general examination is taken only by the pupils who either want to continue their education at the tertiary level (general, academic upper secondary leaving exam called *egzamin maturalny)*. Pupils in sectoral vocational schools take an obligatory examination confirming vocational qualifications. Since the beginning of 2017, structural reform in Poland has been implemented. Its main goal is to offer pupils a solid background of general education required for further personal development and the needs of the contemporary labour market.

The key elements of the reform are:
● a change in the school structure: introduction of a single structure - long, 8-year primary school covering ISCED 1 and 2, 4-year general and 5-year technical upper-secondary school, which replaces the 6-3-3/4 model
● establishing the school starting age at the age of 7 and reintroduction of an obligation for 6-year-olds to attend one year of pre-primary education in order to acquire basic skills before they start school; (this education, as it is the case for the school education, is financed from the general subvention from the State budget)
● provision of textbooks free of charge
● extension of secondary programmes - both general and vocational - by one year (4-year general and 5-year technical upper-secondary school)
● introduction of a new type of vocational education offering two-stage vocational learning: Stage I 3-year sectoral vocational school (to obtain a professional qualification) with a possibility to continue education at Stage II sectoral vocational school for a further 2 years in order to upgrade qualifications/ receive an additional qualification and to prepare for the matriculation exam
● promotion of dual vocational training in cooperation with the business sector
● extending the participation of employers in the co-financing of vocational education through the establishment of the Fund for Vocational Education Development.

The reform is being implemented between 1 September 2017 and the school year 2022/23. In the school year, 2018/19 the last cohort of pupils graduated from gimnazja, the 3-year lower secondary schools, which ceased to operate as a result.

The new structure includes:

- 8-year primary school (single structure education covering ISCED 1 and 2)
- 4-year general upper secondary school
- 5-year technical upper secondary school
- Stage I 3-year sectoral vocational school
- Stage II 2-year sectoral vocational school
- 3-year special school preparing for employment
- Post-secondary school.

Stage I sectoral vocational school was introduced in September 2017, and the introduction of Stage II sectoral vocational school is scheduled for the school year 2020/21. Describing the structure of secondary education is difficult as the structural reform is in progress, some pupils still follow the pre-reform school system/ type of schools. The new structure is being introduced gradually starting in 2019/20 to be completed in 2023/24. In this new structure, the lower secondary school level (ISCED 2) is included in a single-structure 8-year primary school. The new reformed structure of upper secondary education (ISCED 3) includes the following types of schools:

- 4-year general secondary school (liceum ogólnokształcące)
- 5-year technical secondary school (technikum)
- Stage I 3-year sectoral vocational school (szkoła branżowa I stopnia)
- Stage II 2-year sectoral vocational school (szkoła branżowa II stopnia).

Regarding examinations, pupils of vocational schools - sectoral vocational schools and technical upper secondary schools - may take exams confirming vocational qualifications in a given occupation during the course of study or upon completion of school to receive a diploma confirming their vocational qualifications. Graduates of general upper secondary schools and technical upper secondary schools may take the external upper secondary school leaving examination (egzamin maturalny) to obtain the Świadectwo dojrzałości certificate, which gives access to higher education. This possibility will be open also to graduates of the new stage II sectoral vocational school.

4   Description of early school leaving and school absenteeism pre-COVID-19

The COVID-19 pandemic and the associated school closures implied that opportunities for contact between teachers and pupils decreased. Although this may have affected all pupils, it is plausible that especially for young people with already reduced school disengagement this may have led to increased absenteeism and early leaving. This raises the question concerning the pre-COVID-19 situation in terms of early school leaving and school absenteeism in the countries/regions that we study. This situation is well-documented because decreasing the number of pupils who leave education and training early (ELET) was a clear objective of the Strategic Framework for European cooperation in education and training (ET2020)[6]. Indeed, in 2010 the EU installed an ambitious goal to have less than 10% of early leavers. With 9.9% this goal was achieved and the benchmark that is set for 2030 is 9%. There are, however, clear differences between the countries that we study (Table 1).

In Greece, the percentage of early leavers decreased by 9.7 percentage points in the period 2010-2020 (from 13.5% to 3.8%). The pre-COVID-19 level of early leavers in Greece was among the lowest in Europe. In Poland, the level of early school leavers was already low in 2011 (5.6%) and it remained relatively stable, around 5% over the 2010-2020 period. In France and Belgium, the level of early leavers followed a very similar trajectory. It was about 12% in 2010 and gradually decreased to about 8% in 2020. This means that at the start of the pandemic the level of ELET in Belgium and France was about 1.5-2 times higher when compared to Poland and Greece respectively.

Table 1: Evolution percentage of early leavers from education and training in Belgium, Greece, France, and Poland between 2011 and 2020										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
European Union - 27 countries (from 2020)	13.2	12,6	11,8	11,1	11,0	10,6	10,5	10,5	10,2	9,9
Belgium	12.3	12,0	11,0	9,8	10,1	8,8	8,9	8,6	8,4	8,1
Greece	12.9	11,3	10,1	9,0	7,9	6,2	6,0	4,7	4,1	3,8
France	12.3	11,8	9,7	8,8	9,2	8,8	8,8	8,7	8,2	8,0
Poland	5.6	5,7	5,6	5,4	5,3	5,2	5,0	4,8	5,2	5,4
Source: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Early_leavers_from_education_and_training#Overview										

These general levels of early school leaving conceal some kind of heterogeneity in terms of social-background characteristics. Data from Eurostat[7] based on the European Labour Force Study, for example, indicate that in 2020 the proportion of early leavers from education and training in the EU[8] was about 3.8 percentage points higher for young men (11.8%) than for young women (8.0%). Nearly all EU member states reported a higher proportion of early leavers for young men than for

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[6] https://ec.europa.eu/education/policies/european-policy-cooperation/et2020-framework_en
[7] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Early_leavers_from_education_and_training#Overview
[8] Defined as young people (aged 18-24) who had completed at most a lower secondary education and were not in further education or training during the four weeks preceding the survey.

young women. We see these gender differences also with respect to the trend in early school leaving. In the EU, the proportion of early leavers fell between 2010 and 2020 (from 13.8 to 9.9%): the overall proportion fell by 3.9 percentage points, while the proportions for young men and young women fell by 4.1 and 3.6 points respectively. But although the gender gap in early school leaving decreased somewhat, there remained a gap of 3.8 points in 2020 (4.3 percentage points in 2010). In the four countries that we study in this report the gender difference in early school leaving (2020) is largest in Belgium (4.3 percentage points) and lowest in Greece (1.3 percentage points). Interestingly, early leaving varies with the level of urbanisation. In the EU early school leaving is most prevalent in towns and suburbs/rural areas and lower in cities. Applied to our four countries under study, we see a clear variation in this pattern. Greece and Poland follow the general pattern, but in Belgium, for example, early school leaving is highest in the cities and lowest in rural areas and towns/suburbs. In France, early school leaving is highest in towns/suburbs and lowest in rural areas and cities. What these examples illustrate is that already before the COVID-19 pandemic, there were clear patterns indicating that some groups are more at risk than others *and* that these patterns vary between countries. This furthermore underscores the importance of studying education in its context. The aim of this report is to provide that context for five regions.

If one aims to understand early school leaving, it is not sufficient to study only the dropout rates. The road towards early school leaving is a gradual process of school disengagement (Keppens & Spruyt, 2018; Rumberger, 2011). It is known that the more this process of school disengagement progresses, the less easy it becomes to curtail this process. Therefore, it is not sufficient to only focus on early school leaving. Also, (unexcused) school absenteeism, which can be considered an important warning signal, should be studied. In terms of school absenteeism, there is much less comparable data. One reason for this is that countries differ in terms of what level of (unexcused) school absences they consider problematic (see further). Data that provide some view on country-level differences regarding school absenteeism come from PISA (Table 2). In 2012, pupils aged 15 were asked how many times they skipped some classes in the last two full weeks of school. Although this reference period is relatively short, the data provide some sketches of country differences (Keppens & Spruyt, 2018). Interestingly, country differences in class skipping are considerably larger when compared to early school leaving. In Poland, where early school leaving was always very low, more than 20% of all 15-year-olds indicate to have skipped a class at least once in the last two weeks. The percentage resembles that of France. In Belgium, the level of class skipping is considerably lower. Keppens and Spruyt also showed that country-level differences in truancy could at least partially be attributed to characteristics related to how educational systems select and group pupils. Truancy rates are higher in comprehensive (e.g., Poland) and individualist educational systems (e.g., Greece) and lower in strongly tracked systems (e.g., Belgium).

Table 2: Descriptive statistics on school absenteeism based on PISA 2012 in Belgium, Poland, France, and Greece.					
	In the last two full weeks of school, how many times did you skip some classes (%)?				
	n	None	1-2 times	3-4 times	5 or more
Belgium	8491	91,84	6,80	0,67	0,69
Poland	4582	79,62	16,44	2,41	1,53
France	4528	83,18	13,77	2,00	1,06
Greece	5095	57,96	30,33	7,69	4,02
Source: Table adapted from Keppens & Spruyt (2018).					

Besides the actual numbers, it is relevant to get a view of how the countries themselves define school absenteeism and monitor it. All countries/regions that we study reported to have an administrative database in which unexcused absences are registered. But the regions strongly differ regarding at what thresholds they consider absenteeism problematic and from what point schools are obliged to take action. Below we provide a brief description of the registration and regulations regarding school absenteeism in each of the five regions that we study.

4.1   Belgium - Flanders

In *Belgium-Flanders* much time and effort are invested in combating school absenteeism and early school leaving. In a collaboration between the ministers of Education, Welfare, and Work an action plan "Together against school dropout" (*Samen tegen schooluitval*[9]) was developed to achieve the European 2020 goals. School absenteeism is registered every half a day. In most schools, teachers register their absences on a digital platform (e.g., smartschool). Just like in other countries, there are a number of reasons why the absence can be excused (e.g., medical reasons, to attend a funeral). For each type of absence, a specific code is used and a written justification should be provided. If an absence is not excused, the pupil receives a B-code (B stands for Begeleiding / Guidance). A B-code is given for half a day of unexcused school absence. Schools are obliged to follow up on the B-codes and have to take a specific action when a pupil reaches a certain threshold. Since the beginning of the school year, 2016 schools have to take action when a pupil has received 5 B-codes and contact the Centrum for Pupils Guidance (*Centrum voor LeerlingenBegeleiding*)[10]. Pupils who receive during two successive school years more than 30 B-codes, can be obliged to repay their study allowance[11]. Data on school absences are published on an annual basis by the Agency for Educational Services (Agodi)[12]. Each school also receives a report in which their level of school absences is compared to that of other schools with a similar pupil population. Because Flanders data are registered with a great level of detail, they also allow for registering specific variation in the level of unexcused absences between different types of education (Table 3). These data show that there are very large differences between regular secondary education and partial vocational education. The level of unexcused school absences lies more than 15 times higher in partial VET when compared to regular secondary education (the school year 2020-2021).

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[9] https://onderwijs.vlaanderen.be/nl/beleid-tegen-schooluitval
[10] See https://www.agodi.be/rapport-leerplicht-procedures-voor-opvolging-problematische-afwezigheden
[11] Only families with an annual income below a specific threshold received a study allowance.
[12] https://www.agodi.be/leerplicht-jaarrapporten

Table 3: Percentage of pupils with 30 or more half a day of unexcused absence in Flanders according to type of education			
		School Year	
Type of education	2018-2019	2019-2020	2020-2021
Regular secondary education	2.3%	1.3%	2.0%
Boys	2.6%	1.4%	2.3%
Girls	2.0%	1.1%	1.7%
Partial Vocational Education	45.2%	24.5%	31.5%
Boys	45.5%	24.6%	32.5%
Girls	44.4%	24.3%	29.4%
Source: https://onderwijs.vlaanderen.be/nl/dataloep-aan-de-slag-met-cijfers-over-onderwijs.			

Although we did not find data with a similar level of detail for the other countries that we study[13], there is no reason to assume that Belgium-Flanders is an exception on this point. This is also the reason that the OECD attributed a special report to the impact of COVID-19 on VET (OECD, 2021a).

4.2   Belgium - Wallonia

In Belgium-Wallonia each absence from school must be justified by a note from the parents, a medical certificate, or a quarantine certificate in the context of a pandemic[14]. Each pupil is 'entitled' to nine half-days of unjustified absence during the same school year. School managements are obliged to declare unjustified absences to the 'Service du droit à l'instruction', as soon as their accumulation reaches 9 half-days during the same school year[15]. A file is opened for each pupil who exceeds the threshold of 9 half-days of unjustified absence. They are then considered 'school dropouts' and require care and supervision. After 20 half-days of absence, the pupil is excluded from the system. The overall plan to combat dropping out also aims at prevention via steering plans and PMS centres in schools.

4.3   France

In France, a series of action plans to decrease the level of early school leaving have been developed since 1989. The last action plan – *Tous mobilisés contre le décrochage scolaire* – was installed in 2014. Pupil absences are systematically recorded and are the subject of weekly reports to the directorates of the national education department and the rectorate. To measure the level of absenteeism of pupils subject to compulsory education, France has set the threshold of four unjustified half-days of absence per month[16]. Until April 2008, only unjustified absences were taken

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[13] However, data for France point in the same direction: from September 2018 to May 2019, in public secondary schools, 6% of pupils were absent without justification for four or more half-days per month, on average. This average annual absenteeism rate is 3.5% in secondary schools, 7.6% in general and technological high schools (LEGT) and 19.1% in vocational high schools. https://www.education.gouv.fr/en-janvier-2020-l-absenteisme-touche-en-moyenne-68-des-eleves-du-second-degre-public-322778

[14] See L'absentéisme scolaire en constante augmentation

[15] Until 2018 the threshold was 10 half-days of unjustified absences.

[16] https://www.education.gouv.fr/bo/15/Hebdo1/MENE1427925C.htm

into account[17]. At present, unjustified absences still include unregulated absences, but also regularised absences for which the reason for an excuse is considered not legitimate.

The school principal presents the internal regulations concerning absenteeism to the child's parents when the child starts attending school. These regulations specify how absences are controlled and monitored[18]. Parents must get acquainted and sign the internal regulations. In each school and establishment, absenteeism rates are monitored class by class and level by level. When a pupil's absence is noted by a teacher or by any staff responsible for an activity organised during school time, it is reported as soon as possible to the principal education advisor (CPE) or, in the absence of a CPE, directly to the head of the establishment or to the person designated by him/her. The school then contacts the pupil's officials to find out the reason for the absence. The data is transferred from the schools to the directorates of the national education department and the rectorate.

As of the first unjustified absence, the pupil is contacted by the principal education adviser (CPE). The CPE reminds the pupil of the importance of attendance and contacts his legal representatives. After the 4th half-day unjustified absence in one month, the principal contacts those responsible for the pupil and reminds them of their responsibilities and the support measures that can be offered to them to restore pupil attendance. He also notifies the school's social services and the *Directeur académique des services de l'Éducation nationale* (DASEN) about the situation. If the absences continue for more than 10 half-days in one month, the principal brings together the educational team and those responsible for the pupil to provide appropriate support. It appoints a person responsible for monitoring this system and informs DASEN. If the absenteeism situation continues, the DASEN passes the information to Procureur de la République (Public Prosecutor).

Unjustified absenteeism may lead to a disciplinary procedure with regard to the pupil. These measures may go as far as definitively excluding a pupil. Moreover, if the absence of the pupil is not justified by the parents there is a fine of €135. If these unjustified absences compromise a child's education, parents risk 2 years in prison and a €30,000 fine.

In accordance with the provisions of article 6 of the law of September 28, 2010, the school council for primary schools and the board of directors for colleges and high schools present once a year a report on school absenteeism in both primary and secondary schools. In January 2020 about 6.8% of all pupils were problematically absent. This number varied between different types of school: 4.4% in the colleges, 7.6% in the lycées (general and technical education) and 22.9% in the lycées professionnels (vocational education)[19].

The rectorate of each local education authority defines the general guidelines for the fight against school absenteeism and ensures the consistency of the measures taken by the national education services at the departmental level. It organises the pooling of experiences and offers academic management tools. It sets up special support for colleges and high schools where absenteeism is the highest. In these secondary schools, the establishment of dashboards relating to absenteeism makes it possible to set quantitative and qualitative indicators, which are taken into account to support the methods to prevent school absenteeism.

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[17] Like in the other regions that we study, absence can be excused.
[18] institutional web-site of French public services
[19] https://www.education.gouv.fr/en-janvier-2020-l-absenteisme-touche-en-moyenne-68-des-eleves-du-second-degre-public-322778

4.4   Greece

In Greece, all school absences are registered daily in an admin platform (*myschool*). Every day the schools record the absences in the admin platform *myschool* developed and distributed to schools for free by the Hellenic Ministry of Education and Religious Affairs. The platform is only for administrative and management purposes such as the admission and attendance register, marking register, certificates of attendance, and transferring of pupils due to moving to a new address and/or school. In each school, there is a teacher responsible for recording the absences in *myschool*, assigned by the teacher staff board at the beginning of each year. In addition, a teacher is assigned as responsible for each class to record the absences during the day at the Attendance Book, and hand them in at the end of the day to the teacher responsible for logging them into the myschool. Schools must complete the attendance register at the start of the first session of each school day and once at the end of the day. No information is published on a national level.

Absences are registered in terms of the number of school hours (i.e., 45 minutes) that were missed. Under Regulation, no 79942/GD4/31-05-2019, among other issues regarding secondary education, a pupil's attendance can be characterised as 'sufficient' or 'insufficient' depending on the number of absences per year. In the case of 'sufficient' attendance, a pupil can have up to 114 unexcused[20] absences, whereas the 'insufficient' attendance is given in cases of more than 114 absences, where each absence counts per hour. The latter are obliged to attend the same class/year of studies. In addition, teaching staff is obliged to inform parents of their children's absences and vice versa.

4.5   Poland

In Poland, there is a low rate of school absenteeism and early school leaving. As a consequence, there is no general framework to combat it[21]. However, there are at least two policy documents relevant in this context: the "Human Capital Development Strategy"[22] and the "Lifelong Learning Perspective"[23]. These documents, as well as more local strategies, constitute the basis for the implementation of the preventive, intervention, and compensatory measures aimed at limiting early school leaving. Much emphasis is placed on the responsibilities of parents who are expected to enrol their child in education and ensure regular attendance at school. These obligations are regarded as administrative duties, non-compliance with which can be enforced. According to Article 35 (1) of the Act of 14 December 2016 Education Law, education is compulsory until the age of 18. The headmaster of a school controls the fulfilment of the compulsory education obligation by children residing in the school's perimeter. Schools are obliged to report the data about each pupil in the

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[20] Like in other countries there are several reasons (e.g., medical reasons) why the absence can be excused if the pupil provides an appropriate justification.

[21] To combat school absenteeism or early school leaving there are usually bottom-up initiatives or interventions, and it's up to the school principal and active teachers how the problem is (or not) solved.

[22] "Human Capital Development Strategy" enacted by the Resolution N r 104 of the Council of Ministers of 18 June 2013. (M.P. of 2013, item 640)

[23] "Lifelong learning perspective" Annex to the Resolution No. 160/2013 of the Council of Ministers of 10 September 2013.

central information system about education institutions in Poland (Polish: System Informacji Oświatowej, Educational Information System)[24].

Non-compliance with the obligation to learn is understood as an unexcused absence within a period of one month from at least 50% of school days. Attendance is usually checked by the teacher[25] reading out the names of the pupils assigned to a class/group in alphabetical order at the beginning of each lesson. The result is recorded in online forms (since 2019). If the principal in the course of control activities determines that a pupil does not meet the obligation to attend school, the first step is to contact the parents and inform them about this fact. If despite the conversation, the situation does not change, the principal shall take standard actions related to the enforcement of compulsory schooling in accordance with the provisions on enforcement proceedings in administration (Article 42(1) of the Act of 14 December 2016 Education Law). Consequently, this may result in enforcement proceedings being initiated and a fine of PLN 10,000 being imposed on the parent responsible for the child's compulsory education. The fine may be imposed repeatedly, up to a total of PLN 50,000. In practice, this means that even a 2-week absence of a pupil from school may result in a fine of several thousand zlotys.

The previous measures only apply to underaged young people. Irrespective of the age of a pupil, however, in the case of numerous absences there may be consequences provided for in Article 44k of the Act of 7 September 1991 on the Education System:

● a pupil may be excluded from classification in one, several, or all educational classes if there are no grounds for determining the mid-year or annual classification grade due to the student's absence from these classes exceeding half of the time allocated for these classes in the period for which the classification is carried out,

● a student who is not classified due to an excused absence may take a classification exam,

● the pupil who is not classified due to unexcused absence may take a final examination upon the consent of the Council of Teachers.

The pedagogical board decides about the right to take a classification exam if there are unexcused absences. In case of excused absences, an unclassified pupil cannot be denied the right to take a classification examination.

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[24] Schools must update the data in the system every September.
[25] While checking the attendance, the teacher may record that the student is: present, absent, on medica/sick leave or released/dismissed (different reasons: excused, unexcused, other leave such as for a competition, tardiness (tardiness is not included in the pool of absences), excused tardiness, school excused absence).

5 How well prepared were pupils and schools for remote and digital learning?

If countries had one thing in common during the pandemic, it is that their education had to switch abruptly to remote learning. In this section, we aim to get a grip on how well prepared countries were for this new task. Similar to other sections, we first sketch a general picture based on the information that could be found in other comparative research. This is followed by a more fine-grained narrative description of the four countries/five regions we study. In this section, we discuss concrete initiatives that were taken in recent years to increase the digitalisation of education. If we refer here to digital education, we mean the pedagogical use of digital technologies to support, improve and transform learning and teaching (European Commission/EACEA/Eurydice, 2019: 4).

Several comparative studies documented how well pupils, teachers, and schools were prepared for distance learning (OECD, 2020a; Van de Werfhorst et al., 2020). Based on PISA 2018 data, the OECD studied country differences in the percentage of pupils (15-year-olds) that have a quiet place to study, a computer for schoolwork, and access to the Internet, that is, the necessary preconditions for effective remote learning. They also analysed socio-economic disparities by studying pupils in socio-economically (dis)advantaged schools. These data provide an excellent starting point for a comparison of our four countries.

At face value, the data as presented in the figures below do not show a gloomy picture. The overwhelming majority of pupils (>90%) in the countries that we study indicated to have a quiet place to study and to have access to the Internet. In Belgium, France and Poland almost all pupils indicated to have a computer to do homework. In Greece, the latter only applies to more advantaged pupils. Still, about 80% of all pupils from schools with a more disadvantaged background in Greece indicated to have a computer. In Poland, the socio-economic differences are clearly the smallest (almost negligible) when compared to Belgium, France and Greece. A recent Eurydice report indicated that in the period 2018-2019 all countries/regions under study in this report had ongoing curriculum reforms related to digital competencies (European Commission/EACEA/Eurydice, 2019: 7).

Figure 1: Percentage of pupils that have access to a quiet place to study, PISA 2018
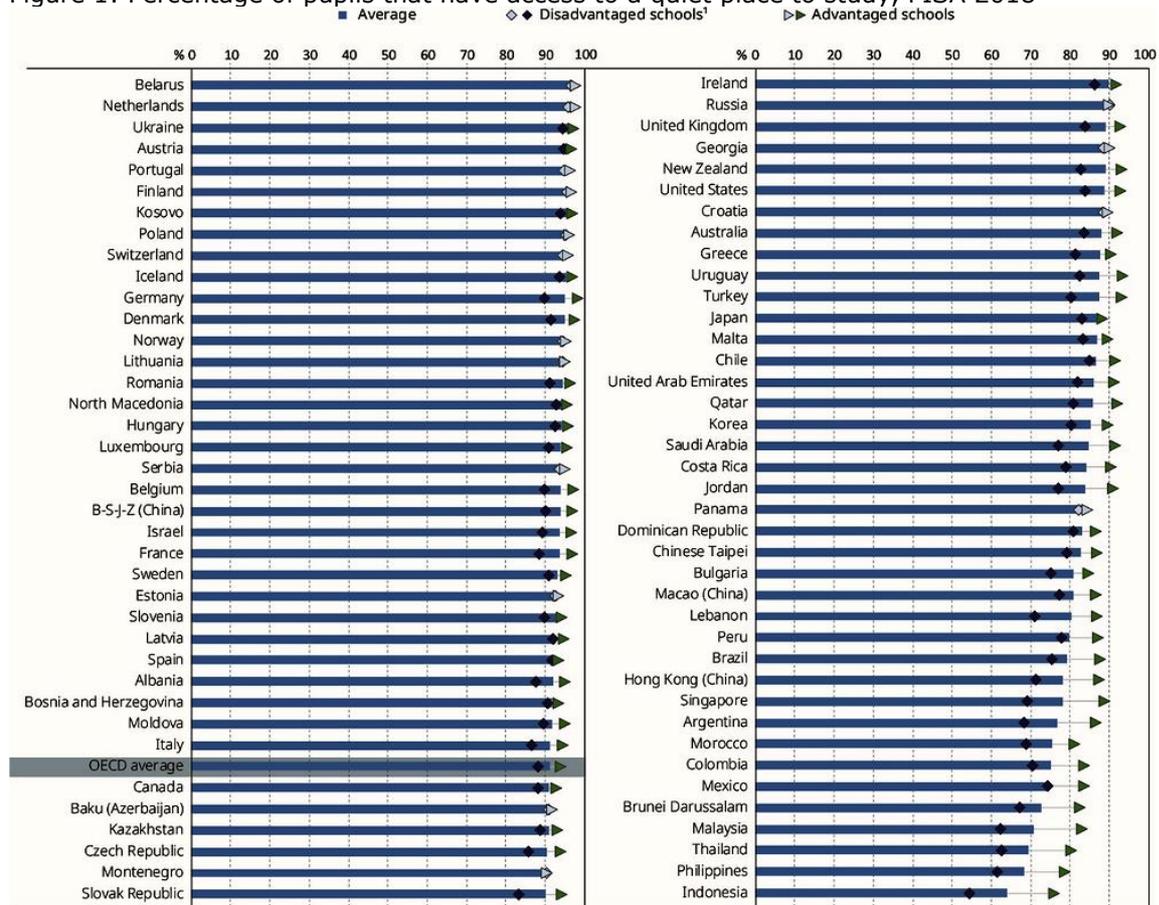
Note: Figure borrowed from OECD (OECD, 2020: 2). A socio-economically (dis)advantaged school is a school whose socio-economic profile (i.e. the average socio-economic status of the pupils in the school) is in the (bottom) top quarter of the PISA index of economic, social, and cultural status amongst all schools in the relevant country/economy.

Figure 2: Percentage of pupils that have access to a computer they can use for schoolwork, PISA 2018.
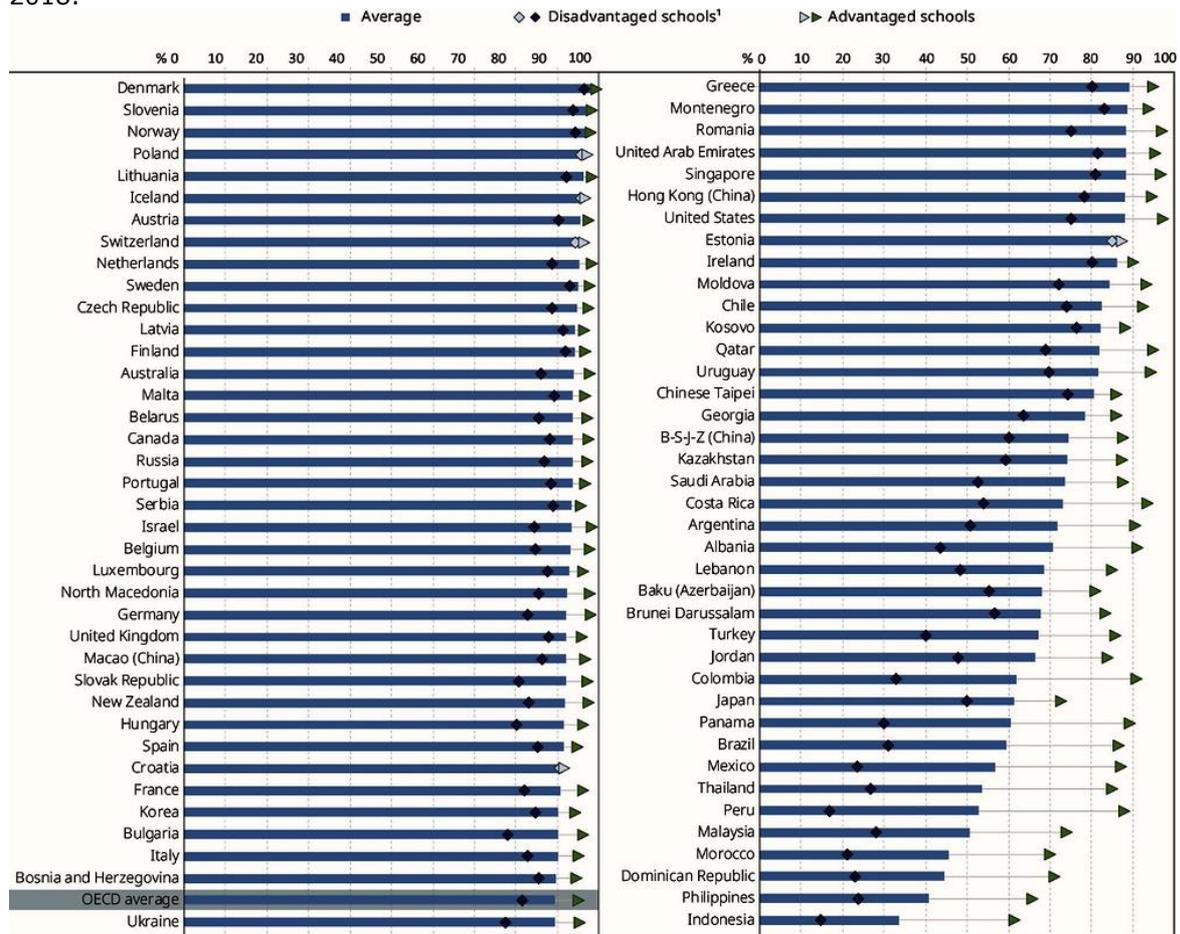
Note: *Figure borrowed from OECD* (OECD, 2020: 3)*. A socio-economically (dis)advantaged school is a school whose socio-economic profile (i.e. the average socio-economic status of the pupils in the school) is in the (bottom) top quarter of the PISA index of economic, social, and cultural status amongst all schools in the relevant country/economy.*

Figure 3: Percentage of pupils that have access to the Internet, PISA 2018
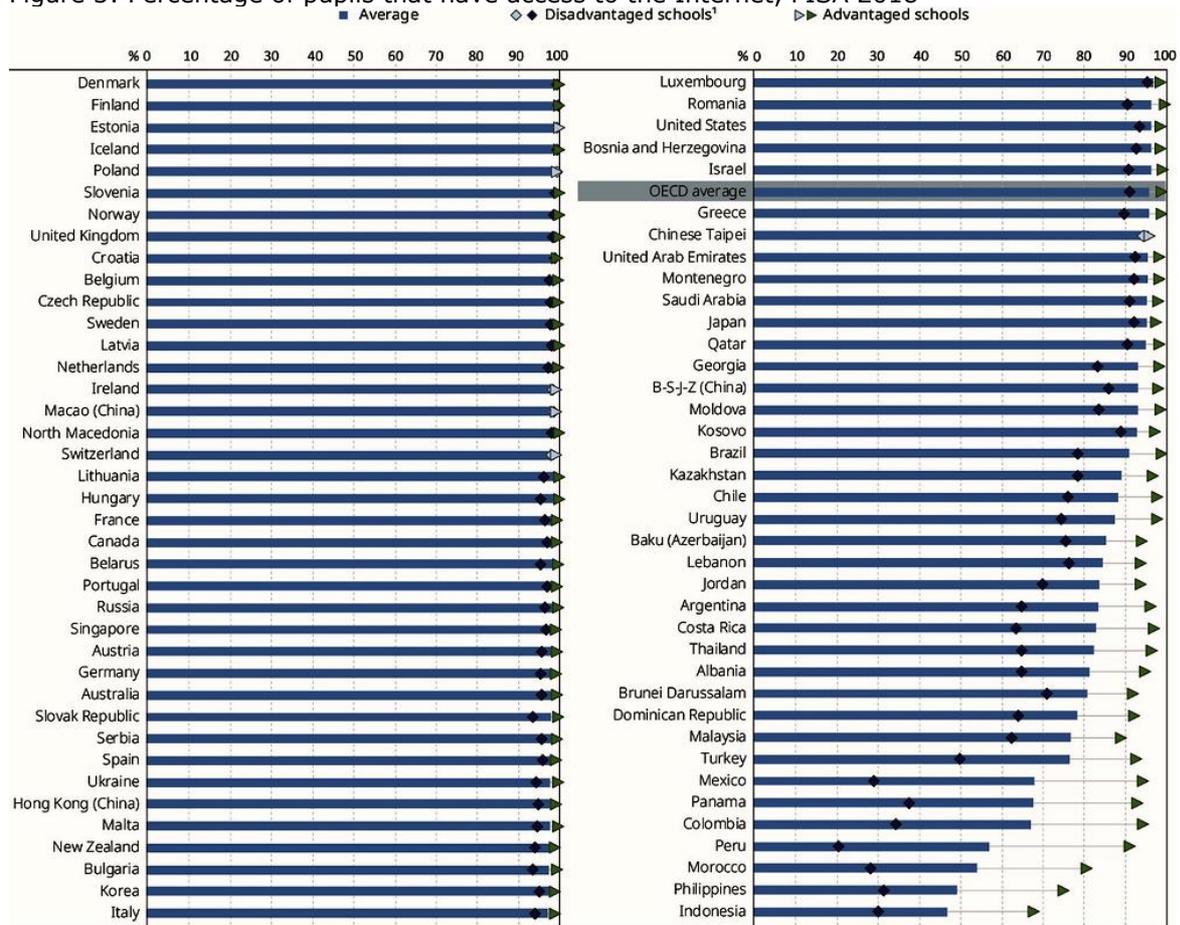
Note: Figure borrowed from OECD (OECD, 2020: 4)*. A socio-economically (dis)advantaged school is a school whose socio-economic profile (i.e. the average socio-economic status of the pupils in the school) is in the (bottom) top quarter of the PISA index of economic, social, and cultural status amongst all schools in the relevant country/economy.*

Although the OECD report also discusses relevant findings for how well schools and teachers were prepared for digital (remote) education, the OECD report provides no data that could easily be re-used here. Therefore, in the table below we present the results of our analysis of the school leaders questionnaire of PISA 2018 (Table 4). In two batteries school leaders were surveyed about (1) the school's capacity to enhance learning and teaching using digital devices and (2) whether the school possessed a range of elements that can be linked to digital education. The results show clear differences between the regions that we study, whereby Belgium-Flanders and France perform much better when compared to the other regions. A common observation, however, is that in 2018 there was ample space for further improvement in all regions.

Table 4: How well were schools prepared for digital learning (School leaders questionnaire, PISA 2018)	Flanders	Wallonia	France	Greece	Poland
Items related to the school's capacity to enhance learning and teaching using digital devices.	% Agree([a]1-4)				
The number of digital devices connected to the Internet is sufficient	86.67	36.63	72.90	51.06	67.92
The school's >Internet bandwidth or speed is sufficient	89.70	40.59	54.21	63.45	57.92
The number of digital devices for instruction is sufficient	84.85	32.67	67.76	33.05	55.00
Digital devices at the school are sufficiently powerful in terms of computing capacity	86.06	51.49	72.43	47.06	51.67
The availability of adequate software is sufficient	94.55	46.53	76.17	50.42	53.75
Teachers have the necessary skills to integrate digital devices into instruction	72.12	33.66	54.67	62.87	76.67
Teachers have sufficient time to prepare lessons integrating digital devices	81.21	55.45	79.72	59.07	77.92
Effective professional resources for teachers to learn how to use digital devices are available	73.33	52.48	69.95	43.70	66.25
An effective online learning support platform is available	69.70	15.00	33.96	33.62	35.00
Teachers are provided with incentives to integrate digital devices into their teaching	59.39	58.42	71.83	31.65	95.00
The school has sufficient qualified technical assistant staff	80.61	19.80	48.13	12.66	32.92
Does your school have any of the following	%Yes				
Its own written statement about the use of digital devices	78.31	48.51	90.70	28.15	52.08
Its own written statement specifically about the use of digital devices for pedagogical purposes	63.86	34.65	72.09	17.72	46.25
A programme to use digital devices for teaching and learning in specific subjects	57.32	15.84	31.31	60.17	15.83
Regular discussions with teaching staff about the use of digital devices for pedagogical purposes	63.03	58.42	68.84	45.99	78.75
A specific programme to prepare pupils for responsible Internet behaviour	60.00	46.00	71.76	34.87	83.75
A specific policy about using Social Networks (<Facebook>, etc.) in teaching and learning	60.61	55.45	52.56	40.34	55.42
A specific programme to promote collaboration on the use of digital devices among teachers	37.58	29.70	41.86	22.27	25.83
Scheduled time for teachers to meet to share, evaluate or develop instructional materials and approaches that employ digital devices	52.73	13.86	22.79	26.47	40.83
Source: PISA 2018, School leaders questionnaire, Unweighted Data [a] 4-point Likert items ranging from (1) strongly disagree to (4) strongly agree; % Agree= 3-4					

The findings for the regions we study here align with a more general pattern. Indeed, using data from the International Computer and Information Literacy Study (ICILS) in seven countries, and the Teaching and Learning International Survey (TALIS) in 45 countries, both from 2018, Van de Werfhorst et al. (2020) demonstrate that schools and pupils varied in their preparedness for digital education, but that school variation was not systematically related to the pupil composition by socioeconomic and migration background. More important drivers for a digital divide in corona-times are the ICT skills pupils have, which in turn are strongly related to socioeconomic background. The

authors found little evidence for a digital divide resulting from social gradients in the preparedness of school environments for digital education. Moreover, as the OECD (2020a: 13) concludes "*[…] digital technology holds great promises to provide learners with access to high-quality learning. However, most education systems need to pay close attention to ensure that technology does not amplify existing inequalities in access and quality of learning further. This is not only a matter of providing access to technology and open learning resources, but will also require maintaining effective social relationships between families, teachers, and pupils, particularly for those pupils who lack the resilience, learning strategies, or engagement to learn on their own. Technology can amplify the work of great teachers, but it will not replace them*."

Below we present a more concrete overview of different initiatives that provide an insider's view on how well the countries under study were prepared for digital education.

5.1   Belgium - Flanders

Before the start of the COVID-19 pandemic, the budget for ICT purposes for all Flemish schools equalled 32 million a year. This relatively low budget – during the COVID-19 pandemic the Minister of Education raised it to 375 million – implied that much of the ICT infrastructure in schools was outdated, and digital learning tools were not very well established in schools. The COVID-19 crisis was a reality check on that point. As a consequence during the pandemic, the Ministry of Education designed an ambitious plan – The Digisprong (see section Challenges) to remedy the situation.

In Flanders, all information to support digital education is brought together on a single website of the Department of Education[26]. Pre COVID-19 many schools in Flanders had an ICT coordinator and an ICT policy plan. The ICT coordinator supports the school leader and the teachers to integrate ICT into their teaching. Besides more technical tasks like the maintenance of the school website, computer installation, and cyber security, the ICT coordinator organises information moments, offers practical help, and trains internal ICT teachers. Schools in Flanders are not obliged to have an ICT policy plan but were strongly encouraged to develop it. In 2017 about 65% of all schools in Flanders had an ICT policy plan (Heymans et al., 2018). Such an ICT policy plan offers a clear and integrated view on the use of ICT in the school. It includes among other things: the school's pedagogical view on ICT, identifies the specific needs for teacher training, the needs in terms of ICT infrastructure, cybersecurity, the ICT budget, the expectations regarding ICT use in class, the school's policy regarding social media usages, etc.

Besides these more general policies, there are a number of concrete initiatives to help schools and teachers to integrate ICT into their teaching. The most important is the platform *KlasCement*[27], a free OER platform where teachers help each other by sharing resources for pupils of all ages (kindergarten, special needs, primary and secondary education, and teacher training) (https://www.klascement.net/?hl=en). It is an educational portal of the Flemish Ministry of Education

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[26] https://onderwijs.vlaanderen.be/nl/onderwijspersoneel/van-basis-tot-volwassenenonderwijs/lespraktijk/ict-in-de-klas

[27] KlasCement was initiated in 1998 by a single teacher and his pupils. From 2002 it was supported by the Department of Education. In 2009 it was transformed to vzw EduCentrum and had more than 20 FTE. From the end of 2012 KlasCement became part of the Agency for Educational Communication (part of the Department of Education).

and Training. The website provides teaching materials and learning resources. Teachers, but also pupils who follow a teacher training programme, share self-created educational objects. During the pandemic various companies, organisations, and initiatives supported education by making digital tools temporarily free of charge or by adding extra functionalities. KlasCement also provides a 'TeachersRoom' where teachers can pose concrete questions to other teachers.

Via the *Archives for Education[28],* teachers (including teachers in training) and pupils have free access to films and audiotapes of the public TV and radio, different local broadcasters, and a range of museums. The content is selected by teachers for teachers and in line with the official final attainment goals (*eindtermen*). The latter makes Archives for Education more than just a repository of interesting materials. Teachers who use materials from the Archives for Education know that (1) other teachers find these materials suitable for educational purposes and (2) that there is a clear match with the goals they are expected to achieve with their pupils. Teachers can follow a free online training to learn to work with the website in an effective way.

To monitor the integration of ICT, Flanders has an ICT monitor that surveys the integration of ICT in Flemish schools[29] (Heymans et al., 2018). The survey focuses on a wide range of topics related to four clusters (i.e., infrastructure and policy, usage, competencies, perceptions). Data are gathered every 5 years. The last monitor was published in 2018. The monitor offers a very fine-grained view of ICT in Flemish schools. Although it is impossible to summarise all findings here, a few examples provide a good picture of the pre-COVID-19 situation of ICT in Flemish education. In secondary education the computer/pupil ratio declined between 2012 and 2017 from 56.48 to 41.02. 97% of all schools in secondary education have a digital pupil system. Although school leaders were relatively satisfied with the school's ICT policy, teachers were much less satisfied with the ICT policy and support. Questions related to ICT use during a class show that, although this number has increased over the years, in 2017 less than 25% of the teachers use ICT at least on a weekly basis. For pupils, the situation is even worse with less than 10% of the pupils in secondary education in 2017 who used ICT in class every week. The same survey also found that 70-90% of all pupils for grades 5 and 6 of primary education and secondary had a personal computer at home. Nearly all pupils had access to the Internet in 2017.

According to the 2020 report[30] of the *King Baudouin Foundation* on digital inclusion compared to neighbouring countries, Belgium is the most unequal country in terms of Internet access. 29% of low-income households do not have an Internet connection at home, compared to 1% of high-income households. This 28% gap is higher than in Germany (15%), France (21%), Luxembourg (7%), or the Netherlands (4%).

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[28] https://onderwijs.hetarchief.be
[29] https://onderwijs.vlaanderen.be/nl/monitor-voor-ict-integratie-in-het-vlaams-onderwijs-mictivo-2018
[30] https://www.kbs-frb.be/fr/barometre-inclusion-numerique

5.2   Belgium - Wallonia

In Belgium, there are considerable differences between the different communities. According to the *Baromètre digital 2018*[31], the number of computers (or tablets) available per 100 pupils enrolled in secondary education increased in Belgium-Wallonia from 10.1 in 2009 to 16.5 in 2017. Although there is a clear positive evolution in the overall level of equipment, the overall availability remains considerably lower when compared to Belgium-Flanders (56.5 per 100 pupils in secondary education in 2012) and France (35.3 per 100 pupils in secondary education in 2016). Similarly, the number of schools that have included an explicit mention of digital technology in the teaching methods in their school project is growing slowly in Wallonia, and has risen to 60% in 2017 for secondary education. This is considerably lower when compared to France where this percentage was already over 90% in 2016.

In the Belgian communities that we study here, schools use digital learning platforms, but there is no unified system. In Belgium-Wallonia, for example, experiments have been conducted with platforms called Claroline and mENTeOS that focus on the processing of administrative pupil data. For pedagogical purposes, platforms like Fronter, Moodle, or Claroline are used. These platforms provide digital tools, essentially in the cloud, aimed at facilitating the sharing of information between the main players in the education system: management, teachers, pupils and parents. In the 2017 *Baromètre* schools were asked to indicate which platforms they used. The four most popular platforms were Smartschool (9%), a school's internal system (9%), Claroline (7%), and Moodle (7%), but respondents were also able to indicate other platforms (33%). One-third of secondary schools did not use a platform at the time of the survey. Similarly, teachers were asked whether their school had a sharing and collaboration platform (ENT, LMS or other), but were given the option of answering "I don't know". A third of the respondents chose this answer, while 27% said they had access to this type of platform and 40% said they did not. Respondents who said they had such a platform also specified its main uses (several choices were possible):

- 41% to be informed of memos and the internal organisation of the school;
- 38% for administrative management (absences, marks, reports, etc.);
- 36% to exchange and collaborate with colleagues;
- 27% to make lessons and answers available to pupils;
- 12% to communicate with parents.

However, 24% of respondents said that they do not (yet) use this exchange space.

The Pact for Excellence in Education (Le Pacte pour un Enseignement d'Excellence; see section 3.2) requires each school to draw up a comprehensive plan defining its strategy in various areas, including digital technology. Until the time of the Baromètre, each school was already required to have a school project which could also contain ambitions concerning the use of digital technology for learning and the development of specific digital skills. Within the framework of the Pact for Excellence in Education

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[31] This barometer is based on a double survey of school heads on the one hand and teachers on the other hand during the year 2017 (see file:///C:/Users/btspruyt/AppData/Local/Temp/Barom%C3%A8tre-2018-Digital-Wallonia-Education-Num%C3%A9rique-1.pdf).

(Le Pacte pour un Enseignement d'Excellence[32]), digital education has taken on a more official role in Belgium-Wallonia, since it is now detailed in the manual, technical, technological, and digital training reference framework. Digital training will therefore be part of the compulsory school programme from the 3rd year of primary school (at least until the end of the common core curriculum at the age of 15). It will therefore be a new component of the FédEFoC's programmes.

In view of the challenges of the digital transition for schools - their cross-cutting dimension and their complexity - the work of the Pact for Excellence in Education highlighted the need for a strategic approach to digital technology that follows five complementary lines of action:

Axis 1 - Define digital content and resources for learning;

Axis 2 - Supporting and training teachers and school heads;

Axis 3 - Define how schools are equipped;

Axis 4 - Share, communicate and disseminate;

Axis 5 - Develop digital governance.

The Strategy makes the digital transition a cross-cutting issue for several of the Pact's projects: the new reinforced core curriculum, the transformation of the teaching profession, the management of heterogeneous classes, collaborative work, support and training, the dissemination of educational innovation, the *decloisonnement* of schools and classes, and the management of the school system. The challenge represented by the digital transition in compulsory education requires a concerted, even coordinated, approach by the various players. To this end, an inter-network body (*Comité inter réseaux du numérique éducatif* - CINE) dedicated to the integration of schools into the digital society will accompany the implementation of initiatives related to the support and training of teachers, digital equipment, sharing, communication, and dissemination of resources. Under the impetus of the General Administration of Education, the CINE will bring together representatives of federations of organising authorities and experts in new technologies, and will also be able to involve trade union organisations and regional bodies in charge of digital matters (AdN and CIRB) in its work. In order to ensure that the digital transition becomes a reality in schools and that the interventions of the various players and partners in education are better articulated, it is essential that the initiatives of the Strategy that directly concern schools can be made operational within the framework of a targeted approach. The new inter-network body will therefore have the task of drawing up a digital plan specifically for schools, covering, in particular, the dimensions relating to training and support, equipment and infrastructure, and the dimensions relating to the sharing of educational resources. If, in the past, just over a third of schools have indicated their intention to exploit digital technology in the classroom, what was the situation with regard to the preparation of the pilot plans that had to be operational in three waves at the start of the school years 2018, 2019 and 2020? Here too, the processes of developing the digital strategy are not yet very advanced, with 21% of secondary schools saying they were already ready in the summer of 2017 and 50% expecting to complete this work before the end of 2018. However, 29% did not yet seem to have made any arrangements in this respect. 36% of secondary schools had, by summer 2017, explicitly included digital skills education in their school project. In Wallonia, this proportion reached 40% of schools, while in

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[32] http://www.enseignement.be/index.php?page=28280

Brussels, it barely exceeded 20%. In the German-speaking Community, on the other hand, these skills were already referenced by almost 80% of schools.

Regarding initiatives for the professional development of teachers that focused on the use of ICT to facilitate (individualised) learning, the *Baromètre 2018* showed that in 2017 such training (the questionnaire included 9 types of training) was neither organised nor encouraged in many schools. Moreover, when training was offered, it was mainly technical (like the use of hard and software). Training courses that in 2017 were most rarely organised are those that focus on the pedagogical use of digital technology.

Regarding the simple connectivity in 2017 more than 90% of secondary schools in Wallonia were connected to the Internet. Overall, the establishments located in the Brussels-Capital Region, and certainly those in the German-speaking Community, have higher connectivity rates than those in the Walloon Region.

However, the connectivity of a school does not mean that the connection is actually available in all classrooms, quite the contrary. Respondents were asked to give the total number of (class)rooms used for teaching purposes, and the number of those that have a wired and/or wireless Internet connection. It appears that a small half of the classrooms had Internet access at the time of the survey. Moreover, there was no Wi-Fi network in 14 to 16% of the secondary schools connected to the Internet. Where Wi-Fi was present, the network was often not accessible to pupils, except in schools for social promotion.

5.3 France

In France, public discussion about the role of ICT in secondary schools can be traced back to the 1970s. We can cite different conferences and national reports that appeared on that matter: for example, the OECD colloquium in Sèvres, "The teaching of information technology in secondary schools'' in 1970 or the "Computerisation of Society'' report (Nora and Minc, 1980) requested by President Giscard d'Estaing in 1978. Since the 1970s, the State has encouraged the provision of digital equipment and resources to primary and secondary schools (collèges and lycées): "The introduction of computing by the National Education system has been based since 1970 on teacher training, equipment plans, school curricula, and the B2i[33]". At the same time, in France, the use of ICT in education and training is rooted in heterogeneous contexts of local communities. Since the adoption of decentralisation laws of 1981, in France, the responsibilities of the state have been delegated to local institutions. As far as the financing of equipment is concerned, it is, therefore, the local authorities who are responsible for equipping schools. The regional institutions equip the lycées; the departments are responsible for the collèges. At the same time, the provision of teachers with personal computers depends either on projects financed by local authorities or on experimental projects in local education authorities financed by the budgets of decentralised bodies. These policies, which are local, therefore, generate considerable territorial heterogeneity between local school districts. Moreover, teacher training is also organised at the local level. In France each year every local school authority launches its own Academic Training Plan (PAF, Plan Academique de formation)

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[33] B2i, Le Brevet informatique et Internet adultes: national certification of the mastery of digital competences and the safe critical and ethical use of ICT (Source: Voulgre, 2011, p.102)

which represents a plan of professional development activities offered to teachers. Prior to September 2019, the Academic Training Plans typically included various training activities to develop teachers' ICT skills[34]. Therefore, the training of secondary school teachers is heterogeneous in France. It varies from one local education authority to another and depends on the offer proposed in each Academic Training Plan. As a consequence, there are no national data about all teacher trainings in all the school districts which makes it difficult to assess the overall scale and impact of this type of professional development for secondary school teachers at the national level. Prior to COVID-19, there was significant heterogeneity between local communities when it came to the preparedness of schools, teachers and pupils for digital learning realities. At the same time, Since 2016, a number of projects to which the communities have been strongly committed have enabled primary schools and secondary schools to become equipped with digital tools and a stable Internet connection. It is also worth noting that, when it comes to the Internet stability and connection, the general population's access to the Internet is generally satisfactory. Indeed, France is one of the countries where Internet access is comparatively low in cost and therefore widespread, according to the 2019 Digital Barometer, produced by CREDOC[35]. According to the Digital Barometer 2019, the number of people connected to the Internet has been steadily increasing since the mid-2000s, reaching 89% of French people connected to the Internet in 2018. However, the access medium is not specified in this data source[36].

There are a number of policies and programs that were introduced by the Ministry of Education before the pandemic and that were implemented to stimulate the use of ICT in class. They provided teachers and pupils with digital equipment (computers, tablets, smartphones) and pedagogical materials for remote learning and served as a basis for adaptations to the switch to digital learning.

One of such national programs is The Digital Plan (La politique du Plan Numérique) initiated by the president and the Minister of Education in 2015 to help French teachers and pupils benefit more from digital technologies. The Digital Plan reforms included four components: provision of teacher training in ICT as an 'essential condition for the transformation of digital schooling'; creating access to pedagogical resources that are intended to be 'adapted to digital uses'; equipping college pupils with mobiles; creating tools to evaluate, develop and disseminate new digital uses. This plan coincided with the distribution of tablets to targeted schools, introducing training credits for teachers and new calls for projects to develop digital resources for education. Around 25% of French collèges participated in this program and, as a result of this program, by September 2016 at least 1510 colleges were equipped with tablets; digital literacy and code learning started to be introduced to primary and secondary school curricula; around 3 days of digital training were proposed to secondary school teachers; the M@gistere online training platform dedicated to teachers started to be used by almost a third of the teaching staff[37].

The Digital Plan was followed by various calls for projects to which the communities committed. This in turn has enabled secondary schools to be more digitally equipped. To illustrate, the program *Equipment of schools* within the framework of the "Digital Innovation and Educational Excellence"

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[34] Piedfer-Quêney, L. (2021). La formation continue des personnels de l'Éducation nationale : qu'en est-il aujourd'hui ? Paris : Cnesco-Cnam
[35] source : CREDOC
[36] ibid.
[37] Source: official French government web-site

(INEE) action of the Future Investment Programme[38] can be cited. Furthermore, The "Digital Secondary Schools and Innovation" calls for projects have resulted in the deployment of mobile equipment for pupils via individual mobile equipment (IME) or mobile classrooms (MC) in 3,069 secondary schools (43% of secondary schools and 51% of public secondary schools)[39]. The cited programs were followed by "Innovative and rural digital schools" programs in 2017 and 2018. As a result of these programs, nearly 3,800 schools in more than 3,500 rural communities (with fewer than 2,000 inhabitants) benefited from digital equipment designed to promote learning and strengthen the attractiveness of schools and rural areas[40].

Prior to the COVID-19 Pandemic, there were a number of digital learning platforms designed for teachers and pupils. The history of the platforms supported by the Ministry of Education shows that the creation of resources in the field of ICT was evolving. There were a large number of various platforms and tools created to accompany teachers and support the development of their ICT skills and use of pedagogical digital resources. Below we mention the most important ones that were developed prior to the pandemic and that later on helped teachers and pupils to adapt to the new digital realities.

One of the examples of programs that was created prior to the COVID-19 pandemic is *Digital Resource Banks* (Les Banques de Ressources numériques) created in 2017. They were designed to provide teachers and pupils with resources (both in terms of content and in terms of tools) to enable learning via the creation of digital activities and media for the classroom, the creation of lessons, training and revision situations, and the monitoring and evaluation in different subjects[41]. Initially, there were 14 Digital Resource Banks. They were complemented with three new Digital banks addressing all the levels of schooling in 2019.

Reseau Canopé (Canopé Network, Educational creation and support network) was created in 2014. Réseau Canopé works in the field of continuous education and the professional development of teachers. In particular, it supports teachers in the development of ICT skills and the use of digital tools. Réseau Canopé is composed of a head office, 12 territorial directorates corresponding to the academic regions, five academic directorates, 102 Canopé workshops located in each department, and the Bookshop (Librairie de l'éducation) located in Paris[42]. As teacher training is provided mainly at a local level, the mission of the territorial directorates is to contribute to the educational and training offer of the academic regions, in conjunction with all partners. This network provides training and resources to teachers and educational communities. Réseau Canopé has played an important role in supporting teachers during the lockdown period. For example, Réseau Canopé had the capacity to put in place several working groups to support teachers' work locally. Reseau Canopé was also creating ready-to-use resources for teachers (i.e., Canotech)[43].

The *National Centre for Distance Education* (CNED, Centre national d'enseignement à distance) is an institution that was created in 1939 by the Ministry of Education. Since the late 1990s CNED has offered a great number of online educational courses from kindergarten to university, as well as

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[38] Équipement des établissements dans le cadre de l'action "Innovation Numérique et Excellence Éducative" (INEE) du programme d'investissement d'avenir (P2IA)

[39] Site education.gouv.fr (septembre 2020). L'utilisation du numérique à l'École

[40] Site education.gouv.fr (septembre 2020). L'utilisation du numérique à l'École

[41] source : web-site of the Ministry of Education

[42] source - site web Réseau Canopé

[43] MENJ. Enseignants en période de confinement : usages, besoins et acquis, 2020

training for civil service recruitment and others. CNED activities are carried out in public schools from primary to secondary school (vocational education, education for pupils with special educational needs, elective courses, extra-curricular activities, summer courses). Therefore, prior to the COVID-19 pandemic, this institution had the required capacities to become one of the key actors in providing secondary schools, pupils and teachers with digital services, platforms, and tools to adapt to digital realities.

5.4   Greece

In Greece, the need for primary and secondary school teachers to develop basic ICT knowledge and skills was originally approached during the 2000-2004 period, through the initiative known as *A-Level ICT Teacher Training*. This was later followed by the *in-service Training of Teachers* in the utilisation and application of Digital Technologies in the teaching practice, known as *B-Level ICT Teacher Training.* The latter addressed basic specialty teachers: Philology-Language, Mathematics, Physical Sciences, Informatics, Primary Education, and Kindergarten Teachers. The project "In-service Training of Teachers in the utilisation and application of Digital Technologies in the teaching practice" (B-Level ICT Teacher Training) Project[44] of the Operational Program "Human Resources Development, Education and Lifelong Learning", is funded by NSRF (2008-2013, 2014-2020) and was updated, upgraded, enriched and extended to all teacher disciplines. It accommodates:

- The further development and update of the "B-Level ICT Teacher Training", i.e.: the enhancement and update of training methodologies and training content, taking into account modern pedagogical and technological developments, as well as the results and experience gained from the implementation of previous relative projects.
- the extension of teacher training to address all teacher specialties and disciplines of primary and secondary education, which means: the development of infrastructure and human resources (e.g., development of educational content and training materials, development of teacher training support systems, training of new teacher trainers/educators, etc.) and consequently, the increase in potential trainees.
- the training of 300 new B-Level ICT teacher trainers/educators, who will be trained and certified to complement and enrich the existing Registry of B-Level ICT Teacher Trainers (greater geographical coverage, new disciplines) and, following appropriate certification processes, will undertake teacher training along with the existing B-level ICT teacher trainers.
- the training of 30,000 teachers in B1-Level ICT knowledge and skills, the training of 5,000 teachers in B2-Level ICT knowledge and skills, the certification of the above teachers in the corresponding knowledge and skills in ICT, and additionally, teacher certification processes in Basic ICT skills (A-Level ICT skills), which is a prerequisite for the participation of the teachers in B1-Level ICT teacher training.
- the development and adaptation of infrastructure, scientific and technological tools, and large-scale training and certification support systems and mechanisms.
- the implementation of complementary horizontal actions to support the project actions, such as dissemination and publicity, procurement of equipment, reproduction of educational material, etc.

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[44] https://e-pimorfosi.cti.gr/en/

About B-Level ICT Teacher Training

The development and implementation of the new B-Level ICT teacher training concerns two levels of knowledge and skills:

- "Introductory training for the utilisation of ICT in school" (B1-Level ICT teacher training, 36 teaching hours) and
- "Advanced training for the utilisation and application of ICT in the teaching practice" (B2-Level ICT teacher training, 42 teaching hours, and additional 18 hours for preparing "in-class practice")

The combination of these two levels equals the acquisition of knowledge and skills corresponding to the integrated training for the utilisation and application of ICT in the teaching process (B-level ICT teacher training). B1-Level and B2-Level ICT teacher training addresses primary and secondary school teachers of all specialties and disciplines. Training programs are being implemented all around Greece in Teacher Training Support Centres of the TTSCs Registry by a cluster of similar-related disciplines and specialties.

Four 'clusters' for teachers of similar or related specialties have been foreseen for the introductory training for the utilisation of ICT in school (B1-Level ICT teacher training) and consequently the development of four distinct courses, whereas for the advanced training for the utilisation and application of ICT in the teaching practice (B2-Level ICT teacher training) 13 clusters for teachers of similar or related specialties and an equal number of courses have been foreseen, towards a greater specialisation and deepening of the program in specific areas of cognitive subjects.

The lessons are being conducted by B-Level ICT teacher trainers/educators drawn from the Teacher Trainers Registry, once a week, outside school hours, in the form of three-hour sessions, in groups of 10-15 people.

In order to meet specific training needs (e.g., teachers from remote areas, areas with a small number of potential trainees or with a shortage in teacher trainers/educators as well as teachers who serve in Greek schools abroad), part of the training programs are being implemented following the blended learning model (i.e., a combination of synchronous distance learning sessions, asynchronous distance learning activities and where possible, a few face to face meetings).

About the training of teacher trainers in UTTCs

In the context of this project, 1200 B-Level teacher trainers are being trained, to enrich the current Teacher Trainers Registry and cover the training needs, with regard to the inclusion of new teacher specialties and disciplines, as well as the broader geographical coverage of the B-Level ICT teacher training. The training of teacher trainers takes place in nine University Teacher Training Centers (UTTCs), which are structures of Higher Education Institutions, with the University of Thessaly being the coordinating institution. UTTCs are selected in the context of the Project through an open tender. The training of teacher trainers has a duration of 380 hours (including a 30-hour in-class practice) and takes place in six months following the blended learning model. The training programs for teacher trainers take place in groups of 10 organised in 12 'thematic' clusters, each one hosting teachers of the same or similar/related specialty. Teacher trainers hold the profile of high-qualified teachers with extended experience in the utilisation of ICT for educational purposes and were selected to participate in training programs in UTTCs, through an open call. Most of the 300 new teacher trainers come from the new clusters of teacher specialties to meet their training needs, while

a smaller number of new trainers come from the 'core' clusters, to address the geographical shortcomings of teacher trainers.

Upon completion of the training process, teacher trainers are able to undertake the training programs of the project according to the foreseen curriculum that concerns the utilisation and application of ICT in the training practice and support the trainees in acquiring the respective skills and knowledge and applying it in the classroom (in-class practice). The curriculum of the training of teacher trainers consists of:

- a basic, generic part which addresses all disciplines, that covers the main principles of the pedagogical exploitation of ICT in education (ICT learning theories, key teaching concepts and educational theories, development of educational material etc.), the pedagogical exploitation of the Internet (e.g., theoretical background, educational portals, Internet safety issues etc.), adult learning methodology, blended learning methodology, pedagogical exploitation of general-purpose tools as well as of Web 2.0 tools and services (blogs, wikis, social networks etc.), the functional characteristics of digital interactive teaching systems (e.g., interactive whiteboards) and their efficient use inside the classroom, general issues of educational software (characteristics, categories, general design principles etc.), the processing of multimedia content, the development of micro-applications, the pedagogical use of Learning Management Systems and asynchronous distance learning, available educational platforms and repositories for collecting and disseminating educational material as well as data for the technical support of school laboratories,

- a specialised part, which depends on the cluster of teacher specialties and corresponding educational disciplines, which covers teaching theories of cognitive subjects in the specific fields, the learning and pedagogical use of specific software, the implementation and design of educational activities using this software, or other, relevant digital tools, for teaching the specific disciplines, etc.

The teacher training materials can be accessed through the corresponding e-learning platform[45], which is based on the open-source Moodle software, in the form of a separate course for each cluster. Thus, there are 12 'courses' available, one for each cluster of teacher specialties.

The methodology of teacher training includes in-class practice as an organic part of the educational process. In-class practice takes place alongside the training in the University Teacher Training Centres (UTTCs) and may include activities such as: observing and/or conducting teaching at a school using ICT, observing and/or conducting teacher training at a Teacher Training Support Centre (TTSC). This scheme aims at the optimum assimilation of knowledge and skills related to the educational exploitation of ICT on behalf of the trainees through their practical application and by drawing experience from this application in order for the training in the UTTCs to become more effective.

After successfully completing their training, the teacher trainers are invited to participate in a certification process, for joining the Registry of B-Level ICT Teacher Trainers. Candidates who succeed in certification examinations, which are conducted centrally, are certified to be included in the Registry and to be able to carry out B-Level ICT training programs.

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[45] http://moodlepake.cti.gr

About B1-Level ICT teacher training

B1-Level ICT Teacher training constitutes an introductory 36-hour training course on issues of educational exploitation of ICT and addresses primary and secondary school teachers of all disciplines and specialties.

Prerequisite for the participation in an Introductory Training program for the utilisation of ICT in school (B1-Level ICT teacher training) is the certification of basic ICT skills (A-Level ICT skills), with the exception of teachers of Informatics, as well as of the A-Level ICT teacher trainers who are included in the relevant records of previous teacher training projects regarding basic ICT skills1.

The aim of the Introductory Training program for the utilisation of ICT in school (B1-Level ICT teacher training) is the acquisition of knowledge and skills for classroom use and exploitation of:

● new digital infrastructures developed for schools through actions and projects of the Ministry of Education, such as certain digital interactive teaching systems (e.g., interactive whiteboards) combined with educational digital content derived from educational platforms and repositories developed for that purpose,

● modern general-purpose tools and the Internet (including Internet safety issues), through examples and practices, which will make use of all of the above.

The objectives of the teacher training include:

● familiarisation with the characteristics, the function, and the efficient use of interactive teaching systems and methods for educational purposes,

● the exploitation of educational platforms and repositories which collect and distribute digital materials,

● familiarisation with contemporary generic tools as well as the Internet through its new and expanding dimensions, including awareness about safety issues,

● understanding the prerequisites and the possibilities of using digital technologies at school to upgrade the educational process.

The content of the training includes an introduction to ICT educational use, open tools - environments that encourage collaboration and participation in the learning process, presentation, sharing, and learning management environments as well as environments for developing, hosting, and sharing educational activities (e.g., Moodle), blogs and wikis, conceptual maps, modern general-purpose software with emphasis on Free - Open Source Software, repositories and other educational material platforms created for Greek schools (e.g., photodentro, interactive school books (ebooks), IFIGENEIA, AESOP), special education tools, Internet safety, and simple scenarios - activities making use of interactive whiteboards and all of the above.

B1-Level ICT teacher training programs take place outside school hours, in Teacher Training Support Centres (TTSCs) all around Greece, in groups of teachers of 'related' specialties - disciplines ('clusters' of teachers' disciplines) by B-Level teacher trainers in ICT. Four main clusters have been foreseen, which include all teacher disciplines, including special education.

B1-Level ICT teacher training has a duration of 36 teaching hours and lasts for about 12 weeks (about three hours per week which corresponds to one face-to-face training session in a TTSC). As

a complementary and integral part of the training process, in-between training sessions, trainees carry out small tasks - activities assigned to them by their teacher trainers.

All training material for the B-Level ICT Teacher Training is being made available through the B-Level ICT Teacher Training e-Learning Platform (moodle). The platform is also being used for the development and delivery of educational activities and other relevant project work on behalf of the trainees. It is also being used for communication purposes between the trainees as well as between the trainer and the trainees.

About B2-Level ICT teacher training

The "Advanced course for the utilisation and application of ICT in the teaching practice" (B2-Level ICT teacher training) is the continuation of the "Introductory training for the utilisation of ICT in school" (B1-Level ICT teacher training) and guides teachers through deepening their knowledge and skills at the level of integrated teacher training for the pedagogical use of ICT in the teaching practice (B-Level ICT in-service training). It addresses primary and secondary school teachers of all disciplines and specialties who, as a prerequisite, have previously successfully completed B1-level ICT teacher training and received the corresponding certification. The training aims to:

● Extend and deepen teachers' knowledge, skills, and competencies in their area of expertise, regarding the educational use of web 2.0 environments and the Internet in general by combining the use of a variety of digital resources and media, with emphasis on the resources made available by the Ministry of Education,

● Acquire knowledge in teachers' specialty, regarding the design and use of educational software and environments of various types, the conditions, the possibilities, and the limitations imposed by their didactic use, always in combination with the necessary reorganisation of the school class in order to achieve the best educational result as well as added pedagogical value,

● Familiarise teachers with the general characteristics of digital systems that are relevant to their specific area of expertise, and their interactions so as to be able to integrate their teaching practices into a wider context and to be able to cope critically and productively with new learning tools and the rapid technological developments in the field of information and communication technologies as they are being integrated into the education system or the day-to-day practice.

The aim of the B2-Level ICT teacher training is for teacher trainees to:

● further understand the educational opportunities provided by new digital online environments (web 2.0 digital environments and resources for educational purposes) in teaching their subject area and taking advantage of them by integrating them into their daily educational practice, in a meaningful way and in combination with the resources developed by the Ministry of Education (e.g., Photodentro, enriched digital material) already available

● understand the principles of designing an educational scenario or activity in their field of expertise, to be able to design activities themselves in their specialty and include them in the teaching process

● familiarise themselves with and make productive use of the software and the online environments available for their specialty and disciplines (e.g., software and applications for communication, presentation, simulation, management and collaboration, resource sharing tools, social digital resources, online communities, interactive maps, animations, open-source software, text collections, etc.). By recognizing the possibilities and limitations of their use, to be able to reorganise the classroom accordingly so that their teaching is in line with modern teaching

requirements of their specific area of expertise and that the new digital technologies fit in the educational process in the most productive way

● acquire a full and functional understanding of the broader context in which new digital technologies are integrated so as to have a more holistic view of the digital resources and technologies used in the teaching process of their specialty and to be able to include the modern technological tools in this broader context.

The B2-Level ICT teacher training programs are implemented in groups of 10-15 teachers of the same or similar-related disciplines and specialties (clusters of teacher disciplines) and are carried out by B-Level ICT teacher trainers all over Greece, during non-school hours, with the responsibility and hosting of the Teacher Training Support Centres (TTSCs). Thirteen 'clusters' are envisaged for the B2-Level ICT teacher training to include all teachers' disciplines and specialties, as follows:

The program consists of 42 teaching hours, activities, and tasks as well as 18 hours of additional support meetings for 'in-class application of ICT' (i.e., 60 hours in total). It has got a duration of 12 weeks (i.e., a three-hour session taking place once or twice a week, depending on the cluster, with each three-hour session corresponding to a training session or a support meeting or asynchronous distance-learning activities of similar duration, appropriate for completing assignments, studying material, receiving feedback – mentoring, etc for trainees and trainers correspondingly).

Supporting meetings are part of the program and take place for the preparation of the teachers for the 'in-class application of ICT', which takes place on a weekly basis inside the school classroom.

This process aims at the optimum assimilation of the knowledge and skills acquired by the teacher trainees, since drawing experience from practical application in class makes training more efficient by offering feedback. On the other hand, the process aims at the direct and massive transfer of the results from the training process to the end recipients (beneficials), the pupils. During the 'in-class application of ICT' phase, teacher trainers will assume an active, supportive and guiding role to the teachers they train, thus contributing their experience in selecting or developing the appropriate educational activities with ICT, in the more effective implementation of these activities within the classroom and in the timely resolution of any problems that may arise.

Teaching Materials

The Hellenic Ministry of Education and Religious Affairs provided two digital platforms free to all public schools for asynchronous teaching & learning: (1) eclass / LMS provided by the Greek School Network (GSN) and (2) e-me / Digital Educational Platform designed and developed by Computer Technology Institute and Press (CTI), and funded by the 'Digital School' Project. Teachers were free to choose whichever platform depending on their digital skills, without being compulsory to use them in their teaching. There is no official data regarding the platform usage. Hybrid learning was not organised or took place at any time in Greece. Another large-scale project is the one titled "Digital School". Digital School Content-based e-Services are: Open Educational Resources (OERs), Interactive Textbooks (ebooks.edu.gr), Photodentro Digital OER Repositories (photodentro.edu.gr), and a Digital Educational Platform for pupils and teachers e-me (eme.edu.gr)

Another project is the "Advanced Electronic Scenarios Operating Platform" (Aesop) which provided teachers with educational scenarios ready to use. Moreover, pupils were supported in their studying for the Pan-Hellenic Exams through a platform that was launched at the end of 2013. The Special

Needs pupils among the other platforms had access to the following resource: 'Development of Accessible Digital Educational Material'.

The previous examples show that in general there was a certain 'supply' of teaching materials, training opportunities, etc. but that it was rather fragmented, depended very much on the personal motivation of teachers, etc. The fact that there are no data about how much of this was used in practice, seems to suggest that the integration of ICT in education was not common practice. Moreover, we found no initiatives for the professional development of teachers that specifically focused on the use of ICT to facilitate individualised learning.

Regarding the accessibility of Internet and ICT technology in Greece, schools have access to the Greek School Network (GSN), that is, the national network of the Ministry of Education, Research and Religious Affairs (MoE). GSN safely interconnects and enables MoE to provide the educational community with qualified e-learning, communication and collaboration services, e-gov, as well as user support and assistance services in all schools in the Greek territory. Through GSN, the MoE provides the educational community with e-learning, communication and collaboration services, e-government services as well as helpdesk and user technical support services. Therefore, GSN provides electronic services to more than 300,000 users (>15,700 accounts for schools and administrative units, >160,000 teachers, >115,000 pupils). The GSN is the largest public network in Greece in terms of users that it serves. In particular, it interconnects a community of 1,300,000 pupils and 160.000 teachers. This is performed through free broadband connections that are provided in all public schools and administration offices across Greece. The connection technologies used are VDSL & ADSL and optical fibres. The GSN applies state-of-the-art web technologies and is one of the first five school networks in the world that adopted IPv6 protocol l. In addition, in most secondary schools, there are ICT labs fully equipped with computers and printers and with access to the Internet, but no official data is provided.

5.5   Poland

In the last 10 years, the Ministry of National Education of Poland has carried out a number of pilot activities aimed at increasing the digital competencies of teachers and pupils and equipping schools with the necessary infrastructure and teaching materials. In April 2012 the Ministry of National Education announced the government program for the development of pupils' and teachers' competencies in the use of information and communication technologies (ICT) "Digital school"[46]. The implementation of the program was planned for 2013-2016. The pilot program covered four areas:

● *e-Teacher* - among other actions there were the training of 40 "e-trainers" and 1,200 "e-moderators" who support schools in the implementation of tasks related to the use of ICT in school practice, and organisation of a cooperation network and training for approx. 19 thousand school "e-coordinators";
● *e-Learning Resources*, including e-textbooks - are described below;

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[46] The pilot program (2012-2013) was financed by the state special purpose fund (up to 80% of costs) and budgets of local administrations (min. 20% of costs). The Digital School program in the years 2014-2020 was financed mainly by EU Regional Operational Programs and Poland Operational Programs.

- *e-School* - providing schools with the necessary infrastructure, in particular modern teaching aids, the example of realisation is the program "Active Whiteboard" (multimedia or smart whiteboards) which is described below;
- e-*Student* - providing students (in particular those at risk of digital exclusion) with access to modern teaching aids, including mobile computer equipment.

Program "Active Whiteboard" - In the years 2017-2019, the Ministry of National Education introduced a government program for the development of school infrastructure and the competencies of pupils and teachers in the field of information and communication technologies - "Active whiteboard". As the program was realised, primary schools were equipped with interactive (smart) whiteboards, projectors, speakers, and interactive touch monitors. As part of the three-year government program, about 15,580 schools in Poland were provided with teaching aids. The program continues. In the years 2021-2024, the government will subsidise educational institutions for the purchase of modern technologies, teaching aids and tools for therapy, laptops, and sets for teachers to conduct classes using methods and techniques of distance education. The planned total cost of the program is PLN 361,455,000 (~EUR 79,092,997), including PLN 290,000,000 (~EUR 63,457,330) from the state budget. The financial or in-kind contribution of the managing local administration is set at 20% of the grant value.

The "Active Whiteboard SPE" program aims to develop school infrastructure and the competencies of pupils and teachers in the field of information and communication technologies for the years 2020-2024. It provides co-financing of institutions in order to purchase aid necessary for the development of ICT competencies in schools. This specific program enables schools to create a place to learn and stimulate the development of pupils with special needs and psychological and pedagogical support. Primary schools with integration classes, schools for children with special educational needs, and special education centres for blind or visually impaired pupils may become the beneficiaries of the program.

e-podręczniki (e-textbooks) for general education - a component of the government program "developing the competencies of pupils and teachers in the use of information and communication technologies - Digital School". As part of the project, in the years 2012-2015, 18 free e-textbooks[47] and 2,500 open educational resources were prepared, available under a free Creative Commons, which was made available on an open public educational portal for pupils and teachers. Since the pandemic began in March 2020, the platform has been transformed into the Integrated Educational Platform (ZPE[48]) and offers many multimedia functionalities, e.g., interactive tests, video recordings, and additional educational resources. Every teacher and pupil can log into the platform and create their educational paths, create groups of users, and schedule video meetings (e.g., with Google Meets).

According to the Ministry of Education,[49] the ZPE website[50] currently contains over 30,000 resources, including 12,631 interactive e-materials, 105 curricula, and over 3,200 lesson plans. At the same time, the catalogue of resources is systematically expanded with new e-materials.

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[47] Those free textbooks covered most school subjects, like the Polish language, maths, biology, etc. Some of the were accompanied by teachers' books
[48] https://zpe.gov.pl/
[49] Data officially announced at the end of 2019/2020 school year at: https://www.gov.pl/web/edukacja-i-nauka/podsumowanie-roku-szkolnego-20192020 (gov website)
[50] until 28 May 2021 operating under the name www.epodreczniki.pl.

In 2017 the Lektury.gov.pl (Lektury – Readings) platform was launched. It is a joint project of the Ministry of Development and the Ministry of Digitization. The platform's resources currently include 700 items selected from the obligatory reading lists of the basic and extended curriculum as well as supplementary reading. The whole is 32% of the list of all readings, mostly present are books from the Public Domain. In the years before the pandemic, other valuable national resources were also created - one of the goals of creating and sharing them is for educational use. Many cultural and art institutions encourage the use of information society technologies through the use of dedicated repositories. Examples of this include the National Film Archive - Audiovisual Institute (FINA) and Malopolska's Virtual Museums.

Poland also initiated a number of initiatives for the professional development of teachers that focused on the use of ICT to facilitate (individualised) learning. Under the Digital Poland 2014-2020 Program, 147 educational projects were planned in the country, the main goal of which was to increase the availability, degree of use, and quality of information and communication technologies. 56 projects were addressed to teachers of grades 1-3 and employees of institutions that could support schools (e.g., community centres) and were aimed at improving skills in the area of digital and media competencies, programming, and teaching programming. In the years 2014-2019, 16 projects were completed before the pandemic and a further 40 - in 2020. The Digital Poland 2014-2020 Program implements the EU's Europe 2020 strategy and is financed by the EU Funds.

There were at least two more national-wide initiatives that influenced the teaching and learning quality among teachers. The project "Implementation of the core curriculum for general education in kindergartens and schools" and the project "Lesson: Enter". The first was carried out by the Centre for Education Development in Warsaw (project leader) in partnership with the Centre for Civic Education (CEO) from 2012 to 2015. The project was co-financed by the European Union under the European Social Fund and implemented under Priority III of the Human Capital Operational Program. The main goal of the *Active Education* program was to train and coach school principals and teachers as well as to prepare e-learning courses on the implementation of information and communication technologies in education.

The project "Lesson: Enter" is a digital education project aimed at teachers and managers of primary and secondary schools, under which free training is conducted. The project is planned for the years 2019-2023, during which over 75,000 teachers will benefit from the training. The project "Lesson: Enter" is carried out by three organisations: the Orange Foundation, the Information Society Development Foundation and the Institute of Public Affairs. The project is co-financed by the European Regional Development Fund under the Operational Program Digital Poland. (Measure 3.1 "Training activities for the development of digital competencies").

According to the Ministry of National Education in the 2018/2019[51] school year more than 800 teachers were trained in the use of ICT and cyber security. Almost 17,000 teachers in 2018 participated in eTwinning contact seminars, training workshops in the regions, in-service workshops, and online courses on teaching programming to pupils in primary school grades 1 to 3. During the last two years, the government supported schools and teachers by launching different types of projects, such as *"Innovative solutions for digital activation"*, *IT Mastery Centre, Sets of School Multimedia Packages*, *"500+"* and a special hotline supporting teachers in distance learning.

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[51] https://www.gov.pl/web/edukacja-i-nauka/podsumowanie-roku-szkolnego

However, there was no special training, official training for teachers offered by just the government, no open course or online tutorial for individuals as such. There has been no evaluation of those programmes and projects, so there is no data on the effectiveness or number of teachers who actually participated. Moreover, in public opinion/teachers' perspective there was not sufficient support from the government regarding teachers training (see section Digital learning during the pandemic).

Regarding the use of ICT the publication *Information society in Poland in 2020*[52] (Gumiński et al., 2020) presents the results of research from 2016 to 2020 on the use of information and communication technologies in enterprises, public administration, households and by individuals. Compared to previous editions, the scope of the presented information on digitization as well as the types and scope of electronic services provided by public administration units has been extended. In 2020, 90.4% of households in Poland had access to the Internet. The largest percentage of households with the Internet is in large cities - 92.1%. In smaller cities, 89.7% of households have access to the Internet, and in rural areas - 89.3%. Households with children had access to the Internet more frequently - 99.5%. In 2020, 89.6% of households in Poland had access to broadband Internet. Taking into account households with children, 99.1% of them have access to broadband Internet. Analysing further households with the Internet, 99.1% of them have access to broadband service. In general, 67.7% of households have access to fixed-line broadband Internet, and 66.7% to broadband mobile Internet. 81.4% of persons aged 16–74 used the Internet on a regular basis. However, differentiation due to age, employment situation, level of education, and place of residence was also observed. The highest share of regular users was noticed in the 16–24 age group (99.2%), among pupils and students (99.8%), persons with tertiary education (98.2%), and residents of large cities (89.2%). The population of Internet users aged 16–74 with a low level of overall digital skills accounted for 31.5%, with basic skills at 24.1%, and with above basic skills – 26.1%.

In May 2020 NASK CERT published the *Status report on site security education in Poland* that calculates the rate of school sites from SIO data (and hence provides an indication of the extent to which schools had access to the Internet). The list includes 34,920 records, of which 22,396 had a given website - some institutions do not have or have not submitted their website. At the time of the survey, 1,932 of these sites were unavailable. Finally, 20,464 Internet addresses were tested. This indirectly indicates that 58% of schools had access to the Internet just at the beginning of the pandemic.

Meanwhile, the Ministry of Digitalization took steps to build and launch the National Educational Network (OSE - Ogólnopolska Sieć Edukacyjna). The minister commissioned NASK to pilot broadband Internet for schools and prepared an act on OSE. The law was passed in 2017. According to the control undertaken by the Supreme Audit Office, on August 31, 2019, OSE services were launched in 2,575 locations (i.e., 20.3%) out of 12,700 planned for connection in 2019, i.e. in 13.2% of the 19,500 locations planned to be connected by the end of 2020. Today, in July 2021, OSE services are launched in 19,342 schools, i.e. in 99% of planned locations. The next 1,264 schools are in the

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[52] *Information society in Poland in 2020*, Statistics Poland, Statistical Office in Szczecin, Editorial team: Mateusz Gumiński, Wojciech Guzowski, Michał Huet, Mariola Kwiatkowska, Piotr Mordan, Magdalena Orczykowska, ISSN 1898-7583, Warsaw, Szczecin, https://stat.gov.pl/en/topics/science-and-technology/information-society

process of being connected to the network. The pandemic did not delay the execution of the program to any significant extent.

6   School closures during the pandemic

One of the simplest ways to assess the impact of the COVID-19-pandemic is to study the number of days that got lost due to school closures. In this section, we first present a general description of the number of days that schools were closed. In the second part, we provide a more narrative reconstruction of the school period from March 2020 to May 2021. Data from the OECD's Special COVID-19 Survey shows that between January 2020 and 20 May 2021 across 30 countries primary schools were closed for 78 days, lower secondary schools for 92 days, and upper secondary schools for 101 days (OECD, 2021c). The number of days of school closure represents roughly 28% of total instruction days over a typical academic year at pre-primary and more than 56% at an upper secondary level on average across OECD countries. Regarding the countries[53] under study in this report, Table 5 describes the number of instruction days schools were fully or partially closed for different educational levels between the start of the pandemic and 20 May 2021. From this table a number of conclusions can be derived.

First, countries varied in the extent to which school closures were differentiated by educational level. In Belgium, there was no differentiation of school closures according to the educational level. Also in France, differences between the educational levels were modest and much smaller when compared to the situation in Greece, Poland, and the OECD average.

Second, some countries reduced the number of pupils per classroom by combining distance learning with in-person learning. In France, for example, in regions with high COVID-19 infections, in-person instruction was delivered to the 6th and the 7th graders while a hybrid learning arrangement was deployed for the 8th and the 9th graders (OECD, 2021).

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[53] As there were no differences in school closures between Belgium-Flanders and Belgium-Wallonia we report the numbers for Belgium as a whole.

Table 5: Number of instruction days schools were fully or partially closed between January 2020 and 20 May 2021.						
Level of Education	Type of school closure	Belgium	France	Greece	Poland	OECD average
Pre-primary	Fully closed in 2020	43	29	78	35	44
	Fully closed in 2021	5	5	N/A	14	11
	Partially open in 2020	10	16	N/A	220	22
	Partially open in 2021	0	0	N/A	83	19
Primary	Fully closed in 2020	43	29	78	77	59
	Fully closed in 2021	5	5	N/A	21	19
	Partially open in 2020	14	16	N/A	113	25
	Partially open in 2021	0	0	N/A	63	24
Lower secondary	Fully closed in 2020	43	34	68	110	65
	Fully closed in 2021	5	10	N/A	80	27
	Partially open in 2020	30	10	N/A	78	24
	Partially open in 2021	0	0	N/A	4	19
Upper secondary general	Fully closed in 2020	43	39	69	110	70
	Fully closed in 2021	5	10	N/A	80	31
	Partially open in 2020	30	5	N/A	78	27
	Partially open in 2021	79	16	N/A	4	30
Upper secondary VET	Fully closed in 2020	43	34	68	110	71
	Fully closed in 2021	5	10	N/A	80	30
	Partially open in 2020	30	10	N/A	78	30
	Partially open in 2021	79	16	N/A	4	29
Source: *The State of Global Education: 18 months into the Pandemic* (OECD, 2021). N/A = not applicable School holidays, public holidays, and weekends are excluded.						

Figure 4: Number of instruction days schools were fully closed in 2020 and 2021, by the level of education (Excluding school holidays, public holidays, between 1 January and 20 May 2021) (Source: OECD, 2021c: 11)
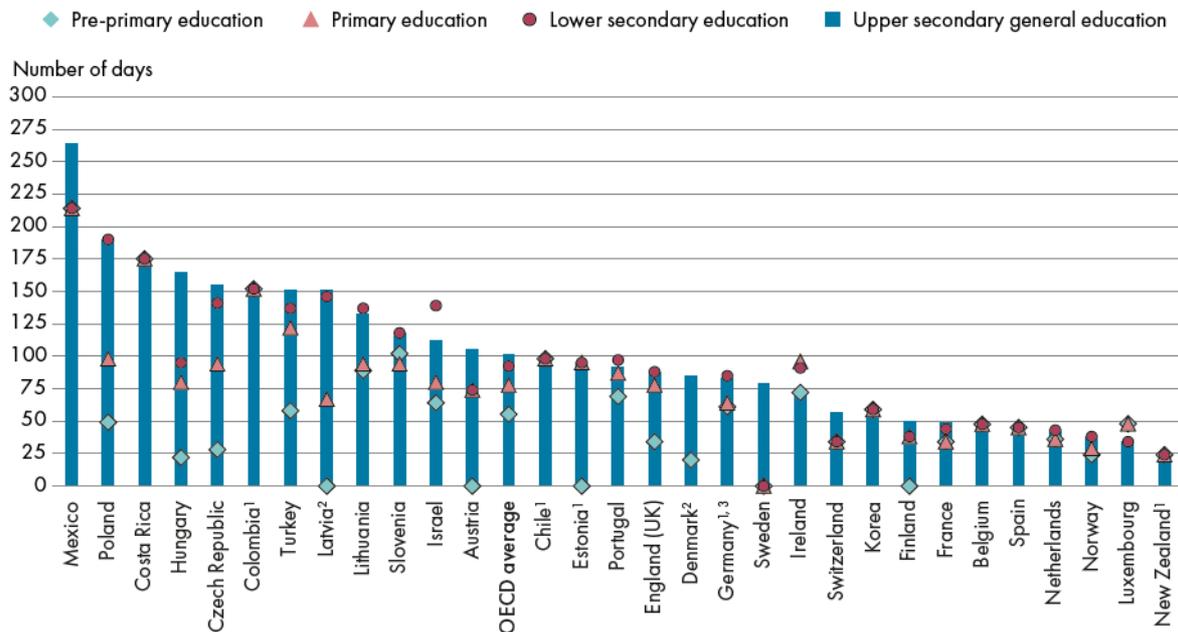
Figure 5: Number of instruction days that upper secondary general schools were fully or partially closed in 2020 and 2021 (Source: OECD, 2021c: 12)
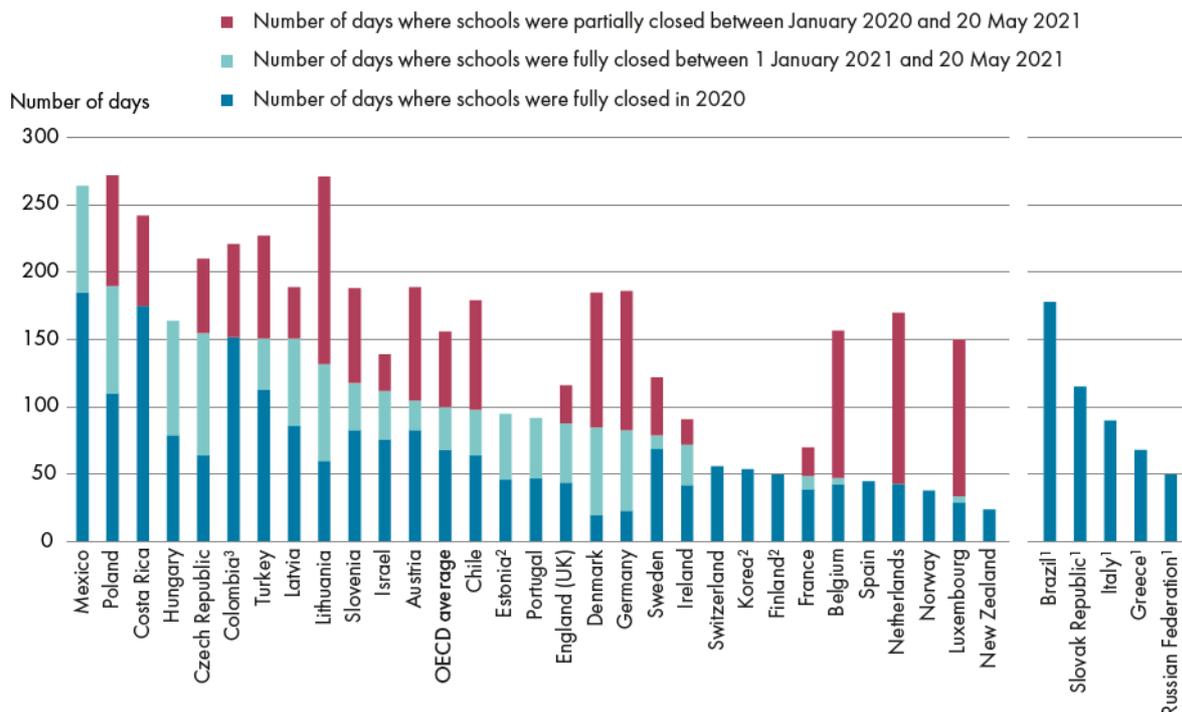
Third, the Special Survey shows that after a quasi-systematic closure of schools in most countries in mid-March 2020, approaches diverged significantly between 2020 and the first part of 2021. Data from the OECD showed that criteria for deciding to close a school are set centrally in most countries (OECD, 2021c). Interestingly, in educational systems that performed less well on PISA 2018 tests, the number of days lost by school closures due to COVID-19 was higher (OECD, 2021c). Moreover, the number of days was not related to the infection rate but was primarily determined by the capacity

of the national health infrastructure. Belgium and France, for example, did not fully close (upper) secondary education between January and May 2021 despite high numbers of COVID-19 infections. Below we present the country-specific reconstructions of school closures between March 2020 and May 2021.

6.1   Belgium

The communities are responsible for education in Belgium. However, issues related to health care fall under the authority of the federal government. This implies that even though school closure decisions were taken on the level of the communities, in practice there was a strong convergence between the policies followed by the communities. Later in the pandemic, some schools were closed on a local basis in case of high COVID-19 infections among pupils and/or teachers. Against that background, we describe the organisation of the school year for the communities that we study in this report.

6.2   Belgium - Flanders[54]

In Flanders, during the first lockdown schools were closed from March 16 to May 15, 2020. However, school closures came as a surprise and the initial aim was to reopen them after a very short closure. So from the 16th of March 2020, classes were suspended until the 3rd of April (i.e., the start of the spring break) in nursery, primary and secondary education, but reception was assured for children who could not stay at home. During this period, schools were advised to only review previously taught materials. This 'rehearsal period' lasted three weeks and was followed by two weeks of spring break. Childcare was still provided during the spring break. For the schools where childcare during the holidays was impossible, another form of childcare was organised which was subject to some conditions: children who had been in childcare had to stay in the same group and could not be grouped with children from another group, and children were taken care of by persons with whom they have already had contact in the previous weeks. Boarding schools and permanent reception centres remained open. After the spring break, the lockdown was extended. For four weeks, schools were asked to start 'pre-teaching', that is, teaching new materials via digital education. These materials would be re-taught as soon as the schools reopened. During the period of pre-teaching, schools were asked to limit the instruction time to half the hours of a normal school day. In the ministerial decree from the 30th of April, it was also stated that one-day and multi-day school trips were forbidden.

The ministerial decree from 8 May stated that classes and activities were still suspended, except for some educational institutions where a trial day was organised on the 15th of May 2020. From then on, the staff and all pupils from the age of 12 were required to wear a mask. From then on, schools could also provide new pedagogical material for the pupils at home.

As of the 18th of May 2020 lessons and activities could be resumed in a nursery, primary and secondary schools for the groups determined by the communities on the basis of experts and the competent authorities. Pupils from the first and second year in primary education could attend school 4 days a week, pupils from the sixth year could go 2 days a week (or 4 half days). For pupils in the

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[54] Based on information derived from https://onderwijs.vlaanderen.be/nl.

final year of secondary education: one day a week in general education, two days a week in the technical and arts track, and in the sixth and seventh year in the vocational track. Nursery education was still closed. The maximum number of pupils per class was limited to fourteen, which implied that most classes had to be split into two groups. For other grades, remote teaching continued until June 8. From June 8, all classes in primary education were reopened full-time until the start of the summer break on July 1 2020. For secondary education pupils from the 2nd, 4th and 6th grades could go to two days a week to school.

In September 2020 the new school year started in relatively normal conditions on the 1st of September. From the beginning of the school year in September 2020 they worked with colour codes. The school year started in code yellow. Communities could decide if schools would open depending on outbreaks.

- Pre-primary and primary education: can always attend school full time, regardless of the spread of the virus.
- First-grade secondary school (1st and 2nd secondary school): can always go to school full-time, irrespective of the spread of the virus, but certain regulations apply, such as compulsory mouth masks
- Second and third-grade secondary school: can go to school full time during the first week, from the second week onwards depending on the situation in the municipality, mouth masks in the classroom

On the 30th of October 2020, the Flemish Government decided to extend the autumn break from the 2nd of November until the 15th of November. Classes restarted from the 16th of November until the 10th of May: during this period pupils in primary education received 100% contact education. Pupils in secondary education, however, followed education in code 'orange'. This meant that the following rules were applied. Pupils in the first stage of secondary education followed 100% contact education from 16 November onwards. Schools could offer limited distance learning if the number of COVID-19 infections among pupils rose. The students in the 2nd and 3rd stages of secondary education switched to a maximum of 50% contact education. Schools organised at least 50% distance learning. Depending on the local situation it was possible to deviate from this system, taking into account the epidemiological consequences elaborated by virologists in various scenarios. Vulnerable pupils remained welcome at school and schools could organise face to face teaching for them, as well as for pupils in special education. Schools were again closed in the week before the Easter holidays.

From the 10th of May 2021 until the end of the school year, all pupils in the second and third grades of secondary education could again follow 100% contact education. Schools could choose for themselves whether and when they switched to full-time contact education after risk analysis by the prevention advisor. From the beginning of June, onwards outdoor school activities within the country were allowed again.

6.3   Belgium - Wallonia

On 16 March 2020 in Belgium, the first COVID-19-lockdown started. A circular note arranged the practical organisation of education during the lockdown. The lessons were suspended by decree of the federal authority. Schools had some freedom regarding the way they organised remote learning

as long they complied with the following guidelines. With these guidelines the government tried to ensure equality in terms of learning:

- Homework cannot in any way relate to learning that has not been discussed previously in class; it must be part of a logic of remediation-consolidation-overtaking;
- The work must be proportionate in content and the time to be devoted to it, taking into account:
    - The lack of educational support for pupils, who will sometimes be alone at home. The work must therefore be able to be carried out with complete autonomy;
    - In secondary education, because several teachers are likely to distribute it, coordination between them would therefore be ideal; otherwise, this reality should be taken into account to ensure the proportionality of the work;
- If the teacher uses online learning modalities, it is imperative to ensure that each pupil in the class group has the materials and support to devote themselves to it in optimal conditions;
- It is recommended as much as possible to mobilise the technological means available to maintain a social link with and between the pupils around the proposed work, as long as everyone can participate;
- Homework cannot be subject to a summative assessment, but a formative assessment (without grading).

During the first lockdown, all schools were closed. If necessary (and more in primary education), schools had to accommodate pupils who are regularly enrolled in the school and whose parents work in areas such as health care, public safety, early childhood care, care of the elderly, or teaching.

In the first instance, the measures were effective till the end of the spring break. Due to the continuing high number of infections, they were prolonged until the beginning of May 2020. From May 18 a first partial resumption of the lessons took place. This first phase of resuming lessons would be a maximum of 2 days per week per group of pupils:

- Pupils of the last year of secondary education (6th and/or 7th).
- More specifically, for qualifying and alternating education, these are all pupils enrolled in a year at the end of which a certificate of qualification (CQ) can be awarded. This includes years 3 and 4 of special education.

During the 2nd phase, if the schools had the organisational capacity, a resumption could be considered from May 25, 2020: up to 2 days per week for pupils in the 2nd year of secondary education. With this partial reopening from May/June 2020 priority had to be given to degree/bridging years and pupils with specific learning needs as well as to professional orientations. In addition, special attention was paid to pupils with educational difficulties. The educational teams were invited to identify, within each class group, the pupils who had to be the subject of specific monitoring because of academic difficulties or special learning needs. Always subject to organisational capacities and compliance with the principles of safety and hygiene, these pupils, whatever their year of study, could be invited to come to the school to renew contact with their teacher(s), up to a maximum of 1 day per week from 25 May.

In practice, in each of these phases, the pupils were subdivided into small groups of no more than 10 pupils, while respecting the safety distances. This recovery was done with a number of 2 days per week and in small groups. There was a mixed education between distance and face-to-face teaching. Priority was placed on the diploma/pivotal years and pupils with specific learning needs as well as on professional orientations.

The objective announced by the Minister for Compulsory Education was to reconnect with as many pupils as possible by the end of June. As soon as possible, the educational teams were invited to identify the pupils who need to be monitored more specifically in order to have them return as a priority, from 25 May, whatever their year of study, for a maximum of one day per week. The aim was to avoid further widening inequalities.

For the organisation of the start of the September 2020 school year, an important difference from the first lockdown was that new subjects could be taught (this was not the case in the first lockdown) and exams were not postponed. At the beginning of the school year, there were no school closures. Schools started under 'code yellow' meaning that they were open but with increased vigilance and some smaller adjustments. In municipalities where the pandemic situation was acute, it was possible to switch to hybrid education corresponding to code orange (half-time face-to-face/distance) exclusively for the second and third levels of secondary education. An exception was however made for the most fragile pupils who may still be invited to attend school physically. For primary education and the first level of secondary education, switching to code orange was also possible, but pupils could continue to attend school full time in this case. Based on scientific data on the local spread of the virus, the existing local crisis unit met with representatives of education, school health promotion, and regional health authorities. As a result, class closures on local levels have been observed in several schools since the beginning of the school year 2020-2021, in different areas of the Wallonia-Brussels Federation.

The Government of the Wallonia-Brussels Federation (Belgium-Wallonia) opted for the temporary end of face-to-face lessons for secondary school pupils as of Wednesday, October 28. This was indeed a suspension of physical presence at school for secondary school pupils during these 3 days before the autumn break and not an additional leave. Educational teams were asked to offer work and distance learning for pupils during this period.

The autumn holidays were extended until 15 November 2020 (so 2 weeks instead of 1). From 16 November 2020 (after the break), pupils in the second and third grades of secondary education (i.e., from the third year upwards) were only present in their classrooms for a maximum of 50% of the time, the remainder having to be provided by distance learning courses. Pupils from the first grade of secondary education could still go full-time to schools.

In April 2021, the two-week school holiday was preceded by a week during which pupils were asked to stay at home, with no classes. Hybrid education from the 3rd year of secondary education was applied until the end of the school year.

6.4 France

The first school closures in France started on March 17, 2020, and lasted till May 11, 2020. The pre-entry for college teachers took place during the week of May 11 to 15 in order to welcome pupils partial re-opening on May 18. From June 22, 2020, all schools reopened.

Throughout the 2020-2021 school year secondary schools were generally kept open. But from September 2020 and until the last days of June, the constraints of the health protocol (installed on August 26) which included, among other things, wearing a mask in public places weighed on the daily life of middle and high school pupils. Moreover, in France classes were closed for 7 days after the first positive COVID-19-case. In middle and high schools, a reinforced contact-tracing protocol

was implemented to identify pupils who had contact at risk with a positive case. High-risk contact pupils who did not justify a complete vaccination continued their distance learning for 7 days. Contact pupils at risk that justified complete vaccination continued the face-to-face lessons. All this implies that there were very large differences between schools and regions in terms of class and school closures during the school year 2020-2021.

On the 30th of October 2020, the sanitary protocol (*protocol sanitaire*) was made stricter. Schools stayed open but in lycées the classes started to work in half-groups, one half of the class being in the classroom and the other joining lessons remotely, depending on the staff of each lycée. Overall, the colleges and lycées had to provide 50% of classes online and ensure that pupils kept their distance in the classrooms since classrooms were administered to be half full. The organisational arrangements were left to the appreciation of the school administration.

In mid-December, the health protocol was further reinforced in middle and high schools. The hybrid model was maintained in the latter, with part of the teaching provided at a distance in two-thirds of the establishments. The final year pupils were given priority for education in schools, with a view on preparing for the Baccalauréat exam (i.e., a French national academic qualification that pupils can obtain at the completion of their secondary education (at the end of the lycée) by meeting certain requirements). As for the colleges, the 4th and 3rd can follow the courses remotely if necessary.

On the 21st of January, it was announced that the 2021 Baccalaureate specialty exams were cancelled. The final specialties tests which were to take place from March 15 to 17 were replaced by continuous assessment.

March 2021: reconfinement in certain territories. First, the lockdown was stopped in the 16th and the 19th French departments. When the number of cases started to increase, colleges and lycees that were able to switch to half-presence could remain open. One COVID-positive case was enough to close a class in the confined departments.

April 6, 2021: closure of the schools and technical problems with ENT. To curb the spread of the virus, schools were closed as of April 6, 2021, for three weeks (schools) or four weeks (middle and high schools). Pupils had two weeks of vacation framed by two weeks of distance learning. These are punctuated by difficulties in accessing digital workspaces (ENT). When presenting this new spring 2021 calendar, Emmanuel Macron was doing the count: the establishments were then kept open for 42 weeks. On the same day, the President of the Republic announced the maintenance of the college exams (épreuves du brevet), scheduled for June 28 and 29.

May 3, 2021: colleges and lycees were reopened, and transition to half-presence for certain colleges took place. In parallel with the return to class, COVID-19 self-tests (available in pharmacies since mid-April) are distributed in schools. Initially reserved for over 15 years old students, the Haute Autorité de Santé finally validated its access for the younger learners. In the fifteen departments most affected by the virus, the colleges switched to half-presence. This only concerned 4th and 3rd-year pupils.

May 5, 2021: philosophy, grand oral, and French exams were maintained. The final exams of the 2021 *bacalauréat* were held in June, but with adjustments.

May 31, 2021: gradual end of restrictions. The half-presence in the colleges was abolished, but the device remains in force for the lycées. At the same time, restrictive measures were easing with a return to normal phases scheduled for June. From June 17, 2021, pupils and students could take off their masks in spaces outside the schools.

6.5   Greece

The second half of the year 2019-2020 was an immediate turn to remote learning without schools and teachers being prepared. Regulations for remote teaching were put in place for all sectors (Primary and Secondary) apart from Preschool Education. Each Regional Center for Educational Planning (PEKES) took different decisions for its area and its schools. The first school closures in education became effective from the 10th of March 2020 onwards. Schools and universities, public and private in three prefectures of Southern Greece were closed. From the 23rd of March 2020, Greece adopted general lockdown measures. School closures between March and June 2020 applied to all schools except for the differentiation as mentioned in the timeline below.

The school closures in the following timeline applied in some cases to certain areas or school sectors (Primary, Secondary) of the country. But after the 30th of March 2020, all schools (Primary, Secondary, public & private) turned to distance education[55].

13th March 2020: testing of synchronous teaching through Webex took place in a secondary school in the presence of the Minister of Education. On 15th March 2020, the 1st Regulation announced setting the national framework for synchronous and asynchronous teaching and learning in the 3 prefectures of Southern Greece.

16th – 20th March 2020: Distance education started gradually for the 3rd Year of secondary education in different areas/prefectures around Greece. 19th March 2020: Regulation 39317/GD4/19-03-2020 for Special Schools was announced, and distance education in any technological means started officially.

20th March 2020: with Regulation 39731/D2/20-03-2020 all pupils in Primary and Secondary education were eligible for email addresses through the Greek School Network (GSN) and access to all digital services provided by the Ministry of Education and Religious Affairs. Parental consent was asked for this process and pupils' parents were mediated to settle pupils' email addresses. Between 23 and 30th of March 2020 all Greek schools (secondary, high-schools, primary schools) gradually transferred to distance learning.

9th April 2020: Regulation for special arrangements for learning loss due to Easter Holidays (13-04-20 till 24-04-2020).

10th April 2020: Extension to distance education until the 10th May 2020.

5th May 2020: The first measures for the restart of face-to-face education were announced.

9th May 2020: Announcement of the end of term on the 12th June 2020 for Secondary Education (6-year groups).

11th May 2020: Return to face-to-face education only for the 3rd Year of secondary education.

18th May 2020: Return to face-to-face education for 1st and 2nd Year of secondary education and all year groups of High-school.

21st May 2020: Announcement of the plans for the delivery of Pan-Hellenic Exams.

For the school year 2020-2021
The school closures in the following timeline in some cases applied to certain areas or school sectors (Primary, Secondary) of the country:

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[55] More details regarding the educational measures can be found below accessed by https://mathainoumestospiti.gov.gr/.

12th September 2020: Law 120126/GD4/12-09-2020 for the 'Synchronous Teaching in School Year 2020-21'.

22nd October 2020: Regulation 44600/GD4/22-10-2020 for the synchronous teaching in socially vulnerable groups.

6th November 2020: curfew measures were in place in some parts of the country. Regulation F9/151928/D1/06-11-2020 for permission letters issued by schools was in place.

11th November 2020: Statutory guidance from the National Public Health Organisation (EODY) is in place for handling cases of COVID-19-19 in schools and part closure of schools (protocols).

14th November 2020: Regulation 155689 /GD4/14-11-2020 planning the daily schedule for synchronous teaching.

28th November 2020: Law 5255/28-11-2020 – school closures (not special schools) in the whole country. Start date: 30-11-20, End date: 07-12-2020.

5th December 2020: Law 5350/05-12-2020 –school closures (not special schools) in the whole country. Start date: 07-12-20, End date: 14-12-2020.

12th March 2021: Regulation 29657/GD4/12-03-2021 – school closures (not special schools) in the whole country. Start date: 16-03-21.

12th April 2021: ONLY Lyseum schools (3 Year Groups) of secondary education return to face-to-face education. Self-test applied to pupils and teachers.

10th May 2021: Schools returned to face-to-face education. Self-test applied to pupils and teachers twice a week.

6.6   Poland

Diagrams 1 and 2 provide a good overview of the school closures in Poland.

Diagram 1: The organisation of the 2019/2020 school year in Poland
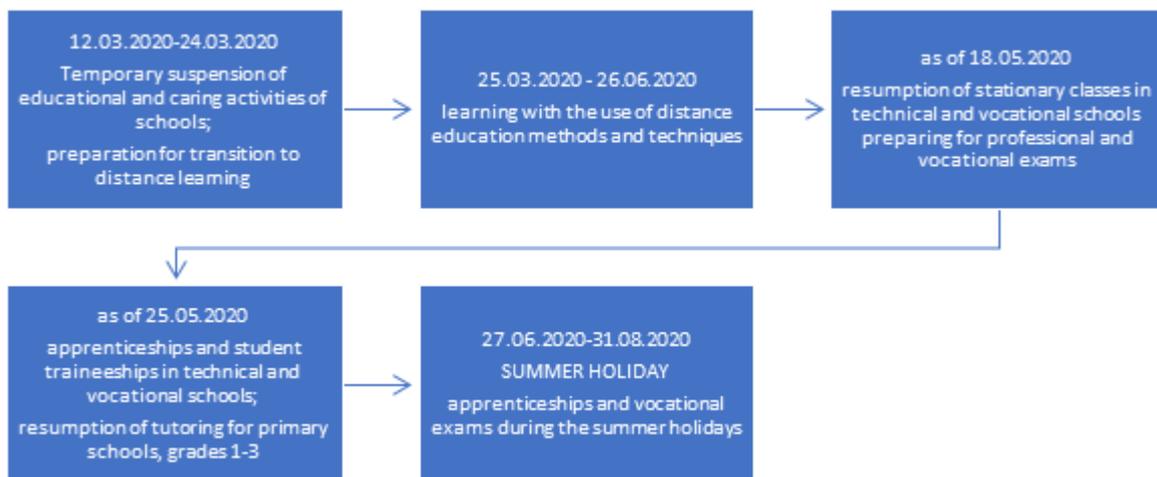
The first period of school closures started on 12 March 2020. The suspension of teaching and educational activities applied to kindergartens, schools, and educational institutions (public and non-public), with the exception of psychological and pedagogical counselling centres; special school and

educational centres; youth educational centres, youth sociotherapy centres, special educational centres, revalidation, and educational centres; kindergartens and schools in medical entities and social welfare units; schools in correctional institutions and juvenile shelters; schools at penal institutions and detention centres. Initially, the school closures would end on the 25th of March 2020, but the closing date was extended to 10 April (including a holiday break) and later to 26/4 and 24/5. From 18 May 2020, stationary classes preparing for professional and vocational exams returned. Then, from 25 May 2020, apprenticeships and student placements in technical and vocational schools started.

29.05.2020 - as of 1.06.2020 practical classes for students of the 3rd class of industrial schools of the 1st degree, both those who are and those who are not juvenile employees, were resumed. They launched practical classes in motor vehicle driving for the students of class III of the vocational school studying in professions for which the core curriculum provides for preparation to obtain the skills of driving a motor vehicle. In addition, all students of the technical schools got the opportunity to participate in apprenticeships with employers or on individual farms.

1.06.2020 - the Ministry of Education has announced that distance learning, which was introduced on 25.03.2020, would be extended to 26.06 (the date coincided with the end of the school year and the beginning of the holidays). During this period school closures and distance learning were the same for all regions in Poland.

The diagram below presents the organisation and school closures during the school year 2020/2021.

The school year 2020/2021 started for all schools with in-school education. The Ministry of Education reported that 99.83% (48,459) of kindergartens, schools, and educational institutions provide education in a stationary mode (i.e., classroom teaching). Fifty-three schools and educational institutions provided distance learning, and in 29 - learning took place in a mixed-mode (hybrid learning). From 19.10.2020 secondary school pupils who attend school in an area covered by the red zone (i.e., a high number of infections[56]) had distance learning lessons. On the other hand, secondary

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[56] In August 2020, Poland was divided into zones according to the number of infections (red zone - most infections, yellow zone - a lot of infections, green zone - safe level of infections). Schools in a red zone switched to distance learning. Schools in a yellow zone provided lessons in mixed (hybrid) mode. Schools in the green zones worked stationary.

school pupils who attend school in establishments covered by the yellow zone had lessons in a mixed (hybrid) mode. Indeed, due to a local increase in the number of COVID-19 infections during the peak of the second and third waves of the pandemic, some voivodeships[57] were periodically subject to more restrictions than the rest of the country.

24.10.2020-8.11.2020 - pupils of classes 4-8 of primary schools, as well as all classes of secondary schools, participants of lifelong learning institutions, and vocational training centres switched to distance learning.

On 4.11.2020 the Ministry of Education and Science (MEiN) extended the suspension of school classes until 29.11.2020. Pupils of grades 1-3 switched to distance learning. MEiN also allowed some practical classes in vocational education. During the suspension of full-time classes, headmasters could give pupils of eighth and secondary school graduation classes individual or small group consultations.

25.11.2020 - distance learning in schools extended until 3.01.2021. However, there were exceptions: from 30.11.2020 it was possible to conduct sports classes in sports schools and practical vocational training in schools providing vocational training. Two days later, the government announced the unification of the holiday period for all regions in Poland for the period 4-17.01.2021, which meant in practice that pupils did not return to school until mid-January.

From 18.01.2021 pupils of classes 1-3 of primary schools, as well as pupils of special schools returned to stationary learning in the sanitary regime. From 1.02.2021 the youngest children continued to learn stationary, while pupils in other classes continued learning remotely. During the period 30/11/2020 and 3/1/2021 (a similar practice applied also in later periods in the school year: 19.04.2021-30.05.2021) there were some exceptions to remote education for all students: sports classes could be conducted at sport schools and practical vocational training at vocational training schools.

1-14.03.2021 - pupils in grades 1-3 of primary schools in the Warmia and Mazury Voivodeship switched to distance learning.

15-28.03.2021 - pupils in grades 1-3 of primary schools in the Lubuskie, Mazowieckie, Pomorskie, and Warmińsko-Mazurskie Voivodeships had classes conducted in the hybrid model. Children and youth from older classes continued to learn remotely.

22.03-11.04.2021 - pupils of all classes of primary schools studied remotely - this was the most important change in the functioning of schools and institutions introduced due to the worsening epidemic situation. Also, pupils of primary and secondary schools: sports schools, sports championship schools, schools with sports divisions, and sports championship divisions were carried out all classes using distance learning methods and techniques.

From 29.03 to 11.04 the stationary functioning of kindergartens, kindergarten units in primary schools, and other forms of preschool education was restricted. This restriction consisted of conducting classes with the use of methods and techniques of distance education or other methods of conducting classes as determined by the director.

Until 18.04.2021 all the existing rules of limited operation of schools and establishments had been extended.

From 19.04 onwards, pre-school education centres returned to stationary education. Additionally, it was possible to conduct sports classes in certain types of schools. Pupils and students taking

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[57] Poland is divided in 16 voivodeships. These are the highest-level administrative divisions of Poland, corresponding to a province in many other countries.

vocational exams or exams confirming qualifications in a given profession in the next examination session could participate in classes in practical vocational training (practical classes and apprenticeship). Other restrictions on the functioning of schools and institutions were extended until 25.04.

29.04.2021 - the Ministry of Education and Science announced the timetable for the return of pupils to school in the 2020/2021 school year: as of 4.05, pupils in classes 1-3 of primary schools across the country returned to stationary learning at school. The activity of other schools and institutions until 16.05 remained unchanged (distance learning), including practical vocational training. As of 17.05, pupils in grades 4-8 of primary schools, secondary schools, continuing education institutions, and vocational training centres switched to learning in the so-called hybrid system. As of 31.05 all pupils and students were taught in schools and institutions.

7   Challenge: Distance learning

The lockdowns following the COVID-19 pandemic implied that schools had to switch to remote learning. In an earlier section, we discussed how well-prepared the regions we study were for this new task. For many reasons distance learning proved to be challenging and many countries had to do ad hoc investments. Remote learning is not only important to avoid or limit learning losses. Research on early school leaving, school absenteeism, and school disengagement, has often stressed the importance of school bonding (Keppens & Spruyt, 2019). A precondition for such school bonding is that there is a good contact between school, pupils, and parents. In that context, the COVID-19-pandemic made it very clear that schools are not just places where people learn but spaces where people relate to other people. Indeed, if the COVID-19 pandemic has taught us one lesson, it is that learning is not just a transactional phenomenon. It is first and foremost a relational and social phenomenon.

In many countries, it has been proved to be a challenge to guarantee that all pupils have daily and dedicated contact with teachers and school, with pupils from disadvantaged families being the most vulnerable (OECD, 2021b). Many schools simply lost contact with some pupils, and material circumstances played a crucial role in this. Indeed, an important challenge was the stability of the Internet connection. Although in many countries connection to the Internet was very high to near-universal, these Internet connections were often not sufficiently stable for live streaming (especially when multiple devices were simultaneously used in the same house). Moreover, in many families, there was a clear lack of devices. Indeed, although in pre-COVID-19 times one computer or tablet was sufficient to be connected, families with multiple children needed multiple devices during the COVID-19-pandemic. Having a stable Internet connection is not only relevant for remote teaching but also social purposes. Schools are first and foremost social hubs that support the development of pupils' socioemotional skills and wellbeing. In that sense, losing contact may have had consequences that reach further than study losses.

All countries that we studied have struggled with this. For all regions, the COVID-19-pandemic was a reality check that illustrated that education systems need to have a strong digital learning infrastructure *and* that such an infrastructure cannot be confined to schools. Even in highly developed

countries, simple things like access to the Internet (and distance learning) turned out to be less self-evident than expected. Governments responded to these changes by increasing budgets for making available PCs and related technologies. In this section, we provide an overview of the initiatives that were taken in the regions under study and the different challenges that were associated with them.

7.1 Belgium - Flanders

In Belgium-Flanders very early in the pandemic, it became apparent that a small but vulnerable group had difficulties in staying in contact with the school and participating in distance learning. Indeed, data from the bureau of statistics (STATBEL[58]) show that in 2020 92% percent of the Flemish households and 89% of the households in Wallonia had a broadband connection at home. Despite this, during the first lockdown (March 2020) it soon became clear that some children could not participate in online learning either due to issues related to having a good Internet connection or issues related to devices necessary to use the Internet connection. The media reported on pupils who made their school assignments on a smartphone and had to share devices with other members of the family.

As a response, the Ministry of Education in Flanders provided laptops (Project: "Digital for youth"). In the first lockdown, 12,500 laptops were provided to children. In the fall of 2020 15,000 laptops for vulnerable pupils of the second and third grades of secondary education, were promised by the Flemish Minister of Education. In Belgium-Flanders since 2003 every school has received funding for ICT support. This funding was calculated based on the number of pupils. The COVID-19-pandemic demonstrated that this funding was not sufficient. Taking into account these elements, Belgium-Flanders realised that the COVID-19 pandemic provided an opportunity to heavily invest in the digitalisation of Flemish education. This resulted in a larger plan 'Digisprong'[59] that intends to invest 375 million[60] in ICT to reach four goals: (1) a future-oriented and safe ICT infrastructure for all schools of compulsory education, (2) a strong supporting and effective ICT-school policy, (3) ICT-competences among teachers and teacher trainers and digital learning tools, (4) a knowledge centre 'Digisprong' that supports the field of education. This project starts in the school year 2021-2022. From the 5th grade in primary education onwards, every pupil will receive a personal laptop/tablet. Schools decide themselves what type of laptop/tablet they choose to provide to pupils. Besides funding for individual laptops, schools receive €42 per pupil to invest in ICT infrastructure.

During the first lockdown, pupils who did not have an Internet connection at home could benefit from free and temporary Internet access provided by the hotspots of the two largest Internet providers in the country (i.e., Proximus and Telenet).

Providing Internet and laptops, however, are not sufficient to overcome all problems because (1) it takes time to distribute them, and (2) some barriers regarding distance learning are more related to people's general living circumstances. Therefore, the OECD advises that if school capacity is limited due to social distancing requirements, countries should prioritise young children and young people with a disadvantaged background for in-school learning (OECD, 2021a). In Flanders, some schools have indeed offered this possibility, but it was not organised as a general policy. Schools also

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[58] https://statbel.fgov.be/nl/themas/huishoudens/ict-gebruik-huishoudens#panel-12
[59] https://onderwijs.vlaanderen.be/nl/digisprong en (Weyts, 2020)
[60] In 2019 the total ICT budget for education in Flanders equalled 32 million.

provided this possibility more often during the second wave (from November 2020 onwards) when compared to the first period of school closures.

Regarding support for teaching and teachers, the website KlasCement (see earlier) which was already up and running pre-COVID-19 functioned as the main platform that teachers could use to share materials and ideas.

At the beginning of the first lockdown, schools were asked to not provide new materials and focus on the repetition of materials that were already discussed in class. By the end of March and when it became clear that the lockdown would last longer than expected, new subjects could be discussed in digital classes ('pre-teaching'). Testimonials learned that schools varied in the extent to which they responded to this recommendation. From the second wave, it was clear that new subjects had to be introduced in digital learning.

7.2   Belgium - Wallonia

The challenges associated with digital learning were in Belgium-Wallonia relatively similar to those observed in Belgium-Flanders. In the first emergency phase, the government released 10 million euros to provide computers to 20,000 pupils and students in the Wallonia-Brussels Federation. Later, the government sought a more structural response by allowing families to equip themselves and thus fight against the digital divide. In this second phase of its digital equipment plan, the Wallonia-Brussels Federation offered the assistance of 75 euros to parents of pupils in secondary years 3 to 7 for the purchase or rental of computer equipment. Schools informed parents about the procedure. The conditions for granting this compensation were detailed on the My digital tools website (Outils pédagogiques numériques). The objective of this measure was to allow as many secondary school pupils as possible to equip themselves with computer equipment during the school years 2020-2021 and 2021-2022. Different initiatives were taken by different authorities thereby also involving the private sector. The Minister of Education also published on 20 October 2020 a directory of hundreds of places with Internet access and computers, made available to pupils and students by local authorities.

Providing access to the Internet is only one aspect of facilitating distance learning. In the context of the COVID-19 pandemic, various provisions were made for compulsory education. First, a website[61] was launched that provided digital tools for professions in compulsory education. It offered tools and resources facilitating the implementation of hybrid teaching (combining face-to-face and distance teaching) and new teaching resources concerning e-class. A good example is *Happi* (for Hybridisation of Interactive Learning[62]), the distance learning platform of the Wallonia-Brussels Federation which was operational from August 2020 onwards. The Happi platform[63] provides tools for (1) creating digital educational content and scripted learning paths, (2) tools for monitoring student learning (notebooks, differentiation, etc.), (3) tools for communication between teachers or between teachers and students, (4) solutions for sharing resources between teachers or between teachers and students. In terms of users, Happi was a clear success story. In October 2020 Happi had 600

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[61] Enseignement.be - Outils pédagogiques numériques
[62] https://happi.cfwb.be
[63] The Happi platform resembles the KlasCement website in Flanders. The latter was already effective before the COVID-19 crisis.

registered schools and 110,000 users. By May 2021 this number had increased to 845 schools and nearly 250,000 users (including 240,000 students). In addition, the schools of Wallonie-Bruxelles Enseignement also have access to another similar platform (Environnement Numérique de Travail)[64]. As part of the strategy for the start of the school year in September 2020-2021 in the context of COVID-19, the General Administration of Education, through its General Service for Digital Education, made various tools and resources available to schools, among others: the e-learning module "Blended learning"; The "Getting started in hybrid and distance learning with digital technology" dossier; The practical guide "Video conferencing tools for distance learning"[65]. Also, the Youth Ministry provided resources that could support hybrid and distance learning[66].

A study of the FAPEO[67] (Federation of Associations of Parents of Official Education - ASBL)- School work in times of COVID-19- showed that parents reported that almost 100% of high school pupils received school work to ensure the continuity of learning. Mostly, they received school work through a digital platform and to a lesser extent by email and via social networks. 10.5% received it in class on the last day before the lockdown. Only 2.4% received it by post. PCs and smartphones were the media that were used. 63.4% of parents noted that new subjects were seen at home, in contradiction with circular 7,515 (note: in the first wave schools were not supposed to give new lessons/information, only rehearsals). 77.6% of young people searched for help from parents to perform tasks. As a consequence, the existing inequalities between pupils were reinforced. In secondary education, 43.9% of respondents declared that their children have a computer. For others, it was necessary to organise themselves within families (e.g., the sharing of a computer between siblings). Not all of them had a printer. In most cases, children were expected to send their work back by email or drop it off on their digital platform. Other pupils sent photos by a smartphone of their written homework when there was no PC at home. 26% of parents said that work returned to teachers was evaluated. Contrary to the recommendation of the circular, parents indicated that pupils received points online. For the most part, the assignments were corrected: either by the teachers to whom the assignments were returned or by the pupils who used the correction tools that followed a few days later, especially in secondary school. This principle contributed to a benevolent practice of formative evaluation. Most of the time, pupils had a second opportunity to ask questions to understand their mistakes. Again for those with the digital tools and the space, this was a positive point. For the others, it contributed to reinforcing the existing inequalities.

7.3 France

In France, in March 2020 each school had to introduce an educational continuity plan (plan de continuité pédagogique), to ensure the continuation of learning. This plan takes up the 'hybrid' and 'remote' hypotheses and articulates various dimensions:

- pedagogical (organisation of lessons etc.)
- digital (efficient use of digital workspaces and software)

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[64] Classes fermées à cause du coronavirus : les écoles sont-elles prêtes à donner cours à distance ? (rtbf.be)
[65] Enseignement.be - L'enseignement hybride.
[66] Projets et Outils face au COVID-19 - ::: ::: - Administration Générale de l'Aide à la Jeunesse, de la Santé et du Sport - Fédération Wallonie-Bruxelles (cfwb.be)
[67] FAPEO

- material (including the collection of contact details for all parents or visibility on the digital equipment of pupils).

According to the educational continuity plan, in order to anticipate hybrid or fully distance learning situations, schools ensured that teachers and pupils were properly equipped and that educational continuity was properly organised. Thus, the role of schools has been decisive for the analysis of pupils' needs and the definition of academic priorities at all levels of schooling.

Concerning the switch to distance learning in March 2020, not all local school authorities and communities were equally prepared to face it. Some school districts were more prepared for distance learning than others. Overall, certain school districts were more prepared thanks to the application of the Digital plan of 2015 which made it possible to equip schools and colleges from the start of the 2016 school year with more than 175,000 tablets for pupils[68]. Depending on the local situation, each local school authority established its own set of priorities when it comes to adapting to distance learning. Also, not all school districts made the same choices or uniformly mobilised their resources. Concerning the equipment of pupils with laptops/tablets, ensuring stable Internet connection, or assisting with upgrading pupils' and teachers' digital skills, each local school authority carried out its own procedures. To provide an example, in the Grand Est region, most secondary school pupils were equipped by the region thanks to the "Lycée 4.0" system - 112,000 personal computers were distributed in September 2019[69]. In addition, this region encountered difficulties with an Internet connection that entailed additional investment in servers (€131,000). To provide another example, at the Nancy-Metz local education authority from the beginning of April, the Délégation académique au numérique éducatif (DANE) conducted an online survey of the school district's primary and secondary schools to inventory the needs in equipment. More than 1,400 items of equipment were loaned to families in schools, colleges, and high schools. That has satisfied nearly 83% of requests[70]. According to the national report provided by the General Inspection, apart from shortages in digital equipment and Internet stability problems, the switch to distance learning has revealed another challenge that concerned the digital skills of pupils and teachers. Some local school authorities have paid special attention to this problem while providing additional support to pupils, teachers and families. To provide an example, in Lille local school authority, the city administration of Arras while equipping 277 families with PCs has also provided these families with some training to upgrade their digital skills.

Regarding digital infrastructure and the switch to distance learning in France, special attention was paid to creating digital workplaces accessible to all the schools. When it comes to public schools, the national data for October 2020 shows that almost all public schools and nearly 90% of public colleges had a digital workplace called *Espace Numérique de Travail* (ENT).

Among the online platforms most used by French teachers, two tools stand out very clearly: ENTs and the CNED virtual classroom. Regarding ENTs, 90% of secondary school teachers use them. The dominant uses are the exchange of documents: provision of lessons or documents by teachers and

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[68] https://www.education.gouv.fr/recensement-et-analyse-des-actions-numeriques-pendant-la-periode-covid-19-322865
[69] https://www.education.gouv.fr/recensement-et-analyse-des-actions-numeriques-pendant-la-periode-covid-19-322865
[70] https://www.education.gouv.fr/recensement-et-analyse-des-actions-numeriques-pendant-la-periode-covid-19-322865

feedback on work produced by pupils[71]. At the start of the 2020 school year, 80% of secondary pupils and 20% of primary pupils (as well as their parents and teachers) benefited from an ENT. During the period from March to June 2020, the ENTs made a massive contribution to educational continuity (+ 346% of visits for March 2020)[72]. The ENTs have several uses:

- educational: digital textbook, common workspaces and storage for pupils and teachers, access to digital resources, collaborative tools, blogs, forums, virtual classroom, etc.
- support for school life: notes, absences, timetables, agendas, etc.
- communication: messaging, staff and family information, videoconferencing, etc.

Pupils, parents, teachers, and administrative staff can access these digital workspaces from any equipment connected to the Internet. It represents the 'digital extension' of school.

When it comes to teachers, during the pandemic training and sharing of teaching materials were provided by the Reseau Canopé services (Canotech, Extra classe, Magistère) and local education authorities. Before the pandemic, in 2009 the National Distance Learning Centre (CNED) put in place "My classroom at home" (Ma classe à la maison). It was acclaimed by the government during the total closure of schools on March 16, 2020. School stakeholders equipped with a computer, a tablet, or a mobile phone, could access their individual accounts individually that provided four weeks of lessons with approved educational content.

Finally, a partnership with *La Poste* was established to enable the collection and supply of computer equipment as well as the delivery of pedagogical support and hardcopy documents to pupils who needed them[73].

7.4   Greece

Following the school closures in March 2020 the Hellenic Ministry of Education and Religious Affairs, first of all, uploaded a special space within the official website, named "Stay home"[74] where all available regulations, resources, platforms, tools, manuals, training materials, videos, etc regarding distance education could be found either from teachers, pupils or parents.

Although in Greece almost all households had access to the Internet, the bandwidth of their internet connection was in many cases not suitable to follow online teaching. With limited bandwidth and families with multiple school-aged children who at the same time would need to be in online teaching, a lot of disruption of Internet connections occurred. There was a lack of devices in families and teachers and more importantly lack of preparation and planning of the educational process and additional frameworks.

Different solutions were tried to deal with this challenge. First, companies around Greece donated about 17,400 tablets and laptops to the Hellenic Ministry of Education. This provision was mostly directed to groups of pupils such as those with low income, parents' unemployment, special needs, single-parent families/three and more children's families/orphans, and exceptional educational progress. From April to June 2020, schools were told by their Local Authority, to ask parents to

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[71] https://www.education.gouv.fr/les-usages-pedagogiques-du-numerique-en-situation-pandemique-durant-la-periode-de-mars-juin-2020-308421

[72] https://www.education.gouv.fr/mars-2020-mars-2021-un-de-continuite-pedagogique-et-de-gestion-de-la-crise-sanitaire-dans-les-ecoles-322704

[73] https://www.cedefop.europa.eu/nl/news/france-covid-19-crisis-ensuring-continuity-learning-vocational-training

[74] https://mathainoumestospiti.gov.gr/schetika/

submit the additional documentation (yearly payment, number of children, special needs...) needed if they were eligible to get a tablet on a loan basis. In this way, a number of tablets and vouchers for device purchasing were distributed to low-income, disadvantaged or vulnerable families and pupils with exceptional educational progress. In Greece, the Local Authority is responsible for the finance and management of the schools in each prefecture. The decision about who received a tablet was made by raffle if there were more than one candidate for one tablet. Second, in terms of access to (a stable) Internet connection according to the regulation on the 8th of April 2020, all pupils and families were eligible for a free Internet connection when using phone-call to access the synchronous digital platform Webex (teleconference) and asynchronous teaching & learning (eclass & e-me). The latter were operational by the end of March 2020.

Another project is the 'Advanced Electronic Scenarios Operating Platform' (Aesop)[75] which provided teachers with educational scenarios ready to use. Moreover, pupils were supported in their studying for the Pan-Hellenic Exams through the platform[76] which was launched at the end of 2013. The Special Needs pupils among the other platforms had access to the following resource: 'Development of Accessible Digital Educational Material'[77].

The Government did not offer special training to teachers regarding remote teaching/distance education etc., until March 2021, when there was a call for training on distance education and remote teaching. However, this training lasted from the beginning of April 2021 till the end of June 2021, and participation was not obligatory.

In September 2020 the government provided teachers with a framework for planning their remote teaching and distance learning. The digital platform 'Learning at Home' with lessons in video format was provided by the Hellenic Ministry of Education but addressed Preschool and Primary and not Secondary Education.

Although tablets could be borrowed from school by pupils, there was no provision to use school facilities. Only teachers were allowed to come and work from school, but no pupils. Especially teachers having no access to the Internet or devices such as computers, tablets, or smartphones, according to Regulation F8/157238/D4/16-11-2020 were obliged to use school infrastructures to deliver their teaching.

7.5   Poland

Also in Poland guaranteeing opportunities for digital learning proved to be challenging. First of all, since the beginning of the pandemic, the duty to organise learning, the principles of assessment of schoolwork, the formula for cooperation between teachers and pupils, etc. rested with the heads of schools and educational institutions. The Ministry of Education (MEN) issued recommendations, promulgated laws that were binding for principals, defined the dates for remote learning, prepared materials or training courses that aimed to facilitate remote learning for teachers, but ultimately it was the school principals who were responsible for organising home-schooling. As the form of distance learning was not imposed from above, this resulted in a wide variation in access to education for children and youth. Some teachers conducted videoconferences according to a school timetable

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[75] http://aesop.iep.edu.gr/
[76] http://www.study4exams.gr/
[77] https://prosvasimo.iep.edu.gr/en/

(mostly on MS Teams, Google meet, Skype, Zoom). Some teachers recorded or developed educational materials and made them available to pupils so that they could familiarise themselves with them at their convenience. Other teachers sent assignments to pupils in e-mails or electronic journals for pupils to work through the materials on their own. The way in which learning activities were implemented therefore varied and depended on decisions taken at the school level. Home-schooling at the first wave of the pandemic also depended on the preferences and skills of individual teachers who were only just getting used to the situation. The Ministry prepared only general guidelines and specific frameworks for the rules governing the operation of schools. The local authorities and school directors had to adjust their schools to conditions on-site, therefore the Ministry did not interfere with the way of providing education at low levels.

According to a 2020 study by the CenEA Centre for Economic Analysis, the number of pupils facing technical barriers to remote education was 1,6 million. 17.3% reported problems with access to appropriate equipment because their families had fewer computers/laptops/tablets than their children at school[78]. These observations are supported by data from the 2018 Household Budget Survey, which showed that the households of almost 330 thousand pupils were not equipped with a computer with Internet access, and for another 1,320 thousand pupils the number of computers in their households was less than the number of pupils. Under such conditions, regular distance learning, necessitated by the COVID-19 pandemic, is either completely impossible or severely hampered. Due to equipment limitations, remote learning was difficult, particularly for pupils from rural households (30% of households with pupils). However, these limitations also applied to pupils living in large cities (17.1% of households). Importantly, the lack of computer equipment was more often experienced by families of single parents than married couples (11.2% vs. 6.4%), and they were strongly diversified in relation to household income. While among households in the lowest decile group, which includes pupils, as many as 33.9% had no access to a computer or had to share this access with school-age siblings, in households in the highest decile group this percentage was almost three times lower. An additional impediment to remote learning was the housing conditions in which Polish pupils had to carry out their educational programme. More than 130,000 pupils lived in one-room flats, and almost 700,000 lived in multi-room flats, in which there were as many or fewer rooms as pupils in the household. In the case of housing stock, having enough rooms for effective remote learning was also significantly differentiated by income level. While in the first two deciles, the number of rooms relative to the number of pupils was insufficient for 16.6% and 20.7% of households, in the highest two income groups this percentage was only 4.5% and 3.7%[79].

Reports focusing on distance (online) learning published in early Spring 2020 indicated that 1/3 of households with children did not have access to a stable Internet connection, 10% of teachers reported serious Internet connection problems with their pupils, 30% of pupils shared computer equipment with other family members (siblings, working parents), and many pupils and teachers worked or studied online in the same room with other family members.

As a response in 2020, the Agency for Restructuring and Modernization of Agriculture has introduced co-financing of the costs of purchasing a desktop or laptop computer for farmers' families. The condition for receiving the subsidy was, inter alia, showing that there were at least 2 school-age

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[78] https://cenea.org.pl/wp-content/uploads/2020/03/komentarz_20200328_en.pdf
[79] https://stat.gov.pl/en/topics/living-conditions/living-conditions/household-budget-survey-in-2018,2,13.html

children in the family. Other initiatives were the Distance School project (Zdalna Szkoła) and the Distance School Plus project (Zdalna Szkoła Plus) coordinated by the Ministry of Digitization and the Digital Poland Project Centre which started in March 2020. Under the project, municipalities can apply for funding for the purchase of hardware and software necessary to conduct or participate in remote classes. It was an aid mainly for large families, but there was freedom of decision-making in this respect. The municipalities then bought the equipment that the individual schools had declared. In the next stage, they handed over these devices to their management boards, which decided which pupils and teachers could rent them. The idea was that when the situation in Poland was stabilised and the pandemic was resolved, schools would reopen. Then, as a rule, the rented equipment would return to their buildings with the pupils. The management also had the opportunity to leave it at the homes of their pupils and teachers. In April 2020 about 90% of municipalities applied for funding which means that over 43 thousand laptops could be purchased. The project has been extended until July 31, 2021.

Regarding the organisation of digital learning at the beginning of the pandemic in Poland, on March 20, 2020, the Ministry of National Education had published a guide for schools[80] that included tips for school principals, teachers, pupils, and parents on how to deal with the new form of distance (online) learning. The guide also included lists of online tools and materials that could be used during online classes and self-study.

The ministry developed supporting materials for school principals, teachers, pupils, and parents that provided information, tips, and practical advice on how to organise distance learning. These were, among others the earlier mentioned "Distance learning - a guide for schools", an Information booklet for school principals and teachers - Ministry of National Education activities for the digitization of education"[81], Safe personal data during distance learning - the Personal Data Protection Office for schools"[82], and materials on psychological and pedagogical support[83]. In all these materials teachers could find links and short descriptions of many online tools and educational platforms, and tips for online lessons with pupils of all levels of education (i.e., kindergarten to secondary school). Moreover, a public competition had also been announced for the development of 10,125 e-didactic materials in the basic and extended scope for four-year general secondary schools and five-year technical schools for physics, chemistry, biology, geography, Polish language, history, philosophy, knowledge of society, mathematics, computer science. It was planned to prepare multimedia resources supporting counselling for all age groups (data about professions and qualifications, professional films, statistics on pupils and graduates, tools and materials enriching the work of counsellors, resources which can be used directly by pupils, their parents and other adult users of the system). But so far there has been no official information on the results of those initiatives.

The Ministry of National Education announced on its website that the PGNiG Foundation, as part of the "Be like Ignacy" project, organised a series of training webinars for teachers on distance learning and the use of new technologies in this process. The first five webinars were held from August 25 to September 3, 2020. The webinars were devoted to the following topics: (1) philosophy of distance learning, preparation for classes, (2) organisation of the teacher's work, (3) technical aspects of

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[80] https://www.gov.pl/web/edukacja/ksztalcenie-na-odleglosc--poradnik-dla-szkol
[81] https://www.gov.pl/web/edukacja/informator-dla-dyrektorow-szkol-i-nauczycieli
[82] https://www.gov.pl/web/edukacja/zdalne-nauczanie-uodo
[83] https://epodreczniki.pl/a/wsparcie-psychologiczno-pedagogiczne/DqrUBxYxa

distance learning, (4) the ability to work in the cloud, (5) useful tools to facilitate everyday work. The next 4 webinars were held from November 12 to November 24, 2020. The webinars covered the following topics: (1) principles of remote education based on the conclusions of the 'lockdown', (2) reverse lessons in distance learning, (3) Microsoft Teams for beginners, and (4) creating quizzes in the Quizizz application.

Pieces of training dedicated to the teachers about new technologies and distance learning (in particular online learning) were mostly held locally by teacher professional development centres, NGOs, and the private sector. In the period of the lockdown, training was online. Teachers could choose from many offers, free and paid, to obtain certificates.

It is not possible to verify the numbers and quality of training courses offered, as well as the number of teachers who participated in them. There seems also to be a discrepancy between what was supplied by the government and how it was perceived by teachers. In November 2020, Centrum Cyfrowe (an NGO foundation that focuses on digital competences[84]) asked teachers to summarise the mainly remotely implemented summer school term 2019/20 and to evaluate the preparation of schools for remote education in the school year 2020/21. The respondents included teachers of secondary schools and vocational schools, and more than 700 respondents provided answers. The September/October 2020 survey showed that the intensity of the problems faced by teachers had not diminished. The biggest challenges once again turned out to be the time-consuming process of remote education, equipment shortages, as well as stress, and fatigue. Information chaos and lack of support from the Ministry of Education also proved to be a big problem. In autumn 2020, only 5% of teachers felt that they had received substantive support from the MEN during their remote education[85].

In September 2020, the Ministry of Education introduced the following regulations concerning the organisation of classes: (1) the duration of a lesson conducted remotely could be from 30 to 60 minutes, which allowed to adapt the duration of educational classes to the individual needs of the school and the nature of educational activities; (2) the headmaster, after consultation with the pedagogical council, could temporarily modify the weekly or semester timetable for classes conducted using distance learning methods and techniques or another way of teaching those classes; (3) individual teaching could be conducted without direct contact between pupil and teacher.

On November 5, 2020, an amendment to the regulation on the temporary limitation of the education system units functioning in relation to the prevention and combating of COVID-19 was introduced. It introduced an obligation of the school head to organise classes for pupils at school if the parents reported that they cannot study at home. Parents did not have to explain the reasons, but the Ministry of Education took into account a wide range of them: disability, illness at home, lack of equipment, and no or not sufficient Internet connection to participate in online activities. The obligation to participate in the classes still existed, only that it was carried out at the school, which had to provide day-to-day care for the child. In practice, this meant that the school allowed the student to participate in remote classes - on school equipment.

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[84] https://centrumcyfrowe.pl/en/homepage/
[85] https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2020/11/Raport_Edukacja-zdalna-w-czasie-pandemii.-Edycja-II.pdf

It happened when the teacher conducted remote classes from the school, and it was not possible to use school computers, but it was possible to organise classes in a hybrid form (the teacher conducted classes remotely and with pupils who are in the classroom).

8   Challenge: School absenteeism

As indicated in other sections of this report, very early in the pandemic, scientists and policymakers were concerned that the pandemic would affect vulnerable pupils most. School closures implied that teachers lost direct contact with their pupils. Digital learning opportunities were set up but depended on the availability of devices and the Internet. If the latter were absent or unreliable, the teacher had little means to contact pupils. These elements raise questions about the evolution of school absenteeism during the COVID-19 pandemic. In the literature, there is a great paucity of studies on the impact of COVID-19 on school attendance problems (Havik & Ingul, 2021; Nathwani et al., 2021), mainly as a consequence of the absence of (reliable) data.

We have to admit that this is arguably the topic on which there was by far the least concrete and tangible evidence to describe the concrete situation in the studied regions. We had to rely on media reports or even anecdotal evidence. However, when approached from a more general perspective, largely the same stories and patterns came to the fore. They boil down to essentially two core observations.

First, it is clear that in all regions schools struggled to stay in contact with some of their pupils and in particular those pupils living in a more vulnerable situation and with a heightened risk of school dropout. Material deprivation and the lack of good digital infrastructure at home played a key role here. School closures, especially during the first lockdown in 2020, seem to have strengthened pre-COVID-19 patterns. In all regions, we found evidence of teachers using a variety of channels (including social media) to connect to vulnerable pupils. These attempts, however, turned out to be largely ad hoc and not structured in a coherent way.

Second, for most of the school absenteeism, there are either no data or the data show important inconsistencies due to registration issues. As explained in Section 4, most regions have an official registration system to monitor the evolution of school absenteeism. The input comes from individual schools which register absences at least daily. Such a system works well in normal times, but was not prepared for distance learning. Indeed, digital learning raised questions like: can a student be absent from school when the school itself is closed? Such questions implied that regions had to develop strategies about how to register school absenteeism for distance learning. In practice, and based on different testimonials in the media, it turned out that in most regions schools were using various strategies to register school absenteeism. This means that it is difficult if not almost impossible to have a good sight of the effective impact of COVID-19 on school absenteeism. The governments of the regions that we study seem to recognise this as in these regions (e.g., Poland) where study orientation was contingent on school attendance, the criteria to calculate school attendance were relaxed.

Below we report relevant findings for each region. As indicated at the beginning of this section, the information for this topic is much more partial and fragmented when compared to other topics. Nevertheless, we believe it is important to report all available information.

8.1   Belgium – Flanders

Especially during the first lockdown and the associated school closures, Flemish media reported on schools that struggled with staying in contact with all pupils. Stories revealed that some pupils went off the radar and had no contact with their teachers for several weeks. In most cases, there seems to be a link with material deprivation and the lack of devices to follow digital education. Although this varies per school, some teachers aimed to engage with more vulnerable pupils by organising doorstep visits, and chats through the same apps used for remote learning, blended counselling,… Within schools, centres for pupil guidance were informed by teachers when pupils were difficult to reach. During the period between March and May 2020 schools were obliged by Ministerial decree to provide reception for vulnerable pupils[86]. It is, however, very difficult if not impossible to get an idea about how widespread all these elements exactly were. We are unaware of any survey that could help to document the phenomenon.

In the school year 2020-2021, the definition of vulnerable pupils was also adapted since the COVID-19 crisis makes every child or young person potentially vulnerable. The educational inspection services, therefore, encouraged schools to keep an eye on pupils who are unchallenged during remote learning, who lack appreciation and guidance during remote learning, who lack digital material or digital literacy, who lack support at home to study, for whom remote learning is less adapted to the needs, who have a lack of space at home,… This definition of vulnerable pupils was temporary[87].

What we do have, are registration data about unexcused school absenteeism. In Belgium-Flanders data about school unexcused absenteeism (i.e., the B-codes; see section 4), are made publicly available via the website *Dataloop[88].* Besides a general and brief description of the most important results, the website also provides a tool that enables users to generate custom-based tables. Three elements seem of particular interest for our current purpose, namely (1) the general trend over the last school years in school absenteeism, (2) the trends for specific subgroups of pupils, and (3) the trend for more specific forms of education (partial vocational education) that are known to be characterised by a high number of school absenteeism. Although for reasons outlined earlier the Flemish government tends to focus on the level of 30 B-codes, the data allow for a more fine-grained study. Therefore, tables 6 and 7 present the distribution of pupils for much lower levels of B-codes. Regarding the general trend, it is clear that during the school year 2019-2020 (the start of the pandemic and the first lockdown) there was in fact a decrease in registered unexcused school absenteeism in Belgium-Flanders. In general, about 61% of all pupils had not a single half a day of registered unexcused school absenteeism compared to 52,5 in the previous school year. Also if we focus on pupils with high absenteeism (30 half a days or more) we see a strong decrease in the school year 2019-2020 when compared to 2018-2019. As explained in the introduction of this

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[86] https://crisiscentrum.be/nl/newsroom/coronavirus-de-antwoorden-op-al-je-vragen
[87] https://www.onderwijsinspectie.be/nl/definitie-kwetsbare-leerlingen-2020-2021
[88] https://www.agodi.be/rapport-leerplicht-resultaten-problematische-afwezigheden

section, this may be a consequence resulting from the fact that it was unclear for some schools how they had to register school absences during school closures/distance learning. In most schools, absenteeism was not registered during the period of school closures. Interestingly, in the school year 2020-2021 (where the number of school days lost due to school closures was considerably lower when compared to the school year 2019-2020), the situation has been normalised and the levels of unexcused school absenteeism were more in line with those in 2018-2019. When we take into account the uncertainty about the registration process, it is difficult to interpret this trend. That said, the data could be used to study whether the COVID-19 crisis had a different impact on different groups of pupils.

The first relevant characteristic is the type of education. It is well known that students in vocational education have higher levels of school absenteeism. In Flanders, school absenteeism is especially high among students in partial vocational education (i.e., students who combine working with going to one or two days a week to school). Therefore, in the bottom part of Table 6, we present the percentage of students with very few unexcused school absences (0-4 days, we collapsed the 0 and 1-4 categories). Interestingly, although this percentage is considerably lower among students in partial vocational education, the overall trend for both groups is highly similar. In fact, in relative terms, the increase in school presence in the school year 2019-2020 is substantially higher among students enrolled in partial vocational education (an increase of 17% vs 6.4% for students in regular education).

Table 6: Evolution of unexcused school absenteeism in Belgium-Flanders over the last 5 school years (Full Time regular general secondary education)					
	School Year				
Number of half a days of unexcused school absenteeism	**2016-2017**	**2017-2018**	**2018-2019**	**2019-2020**	**2020-2021**
>=30	2.1%	2.3%	2.3%	1.3%	2.0%
20-29	1.8%	2.0%	2.0%	1.3%	1.9%
10-19	5.3%	5.8%	6.2%	4.7%	5.6%
5-9	8.4%	8.9%	9.9%	8.1%	8.3%
1-4	23.9%	24.2%	27.0%	23.4%	22.6%
0	58.5%	56.9%	52.5%	61.3%	59.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Regular education vs. partial vocational education (0-4 half a day of school absenteeism)					
Regular education	82.4%	81.1%	79.6%	84.7%	82.2%
Partial vocational education	54.9%	58.8%	57.0%	66.8%	62.9%

Besides the type of study, the social background characteristics of pupils might also be relevant here. In Belgium-Flanders, schools gather information on a number of social background characteristics (so-called Equal Chance indicators). Two indicators seem to be relevant here, namely lower educated parents[89] and whether the pupils speak Dutch (i.e., the language of instruction at school in Belgium-Flanders) at home. Unfortunately, for these characteristics, the data for the school year 2020-2021

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[89] In the Flemish administration the educational level of the mother is taken as a proxy for this. Mothers are considered low educated if they do not have obtained a degree of secondary education.

are not yet published so we had to compare the school year 2018-2019 with 2019-2020. For all groups, the number of unexcused school absences is lower in the school year 2019-2020 when compared to the school year 2018-2019. In relative terms, the effect is in general higher among pupils with a low educated mother or who do not speak Dutch at home.

Table 7: Evolution of unexcused school absenteeism in Belgium-Flanders over the last 2 school years according to relevant social background characteristics of the pupils (Full Time regular general secondary education)						
2018-2019						
	0 days	1-4 days	5-9 days	10-19 days	20-29 days	30 days or more
Low educated mother	32.3	29.0	15.5	12.5	4.7	5.9
Not low educated mother	58.4	26.4	8.3	4.4	1.2	1.3
2019-2020						
Low educated mother	40.1	29.2	14.1	10.1	3.3	3.2
Not low educated mother	67.3	21.8	6.4	3.1	0.8	0.7
2018-2019						
Not Dutch as home language	30.4	29.7	16.1	13.0	5.0	5.8
Dutch as home language	57.2	26.4	8.6	4.8	1.4	1.6
2019-2020						
Not Dutch as home language	39.0	29.9	14.3	10.3	3.4	3.0
Dutch as home language	66.3	22.0	6.7	3.4	0.9	0.9

8.2   Belgium - Wallonia

In Wallonia, no information was found concerning school absenteeism during the first lockdown. For the school year 2020-2021, however, media reports indicate that school absenteeism has risen sharply[90]. The increase in unjustified absences amounted to 38% from September to November 2020, according to the Federation of Associations of Parents in Official Education (Fapeo). They combined official information from the General Directorate of Compulsory Education with the results of a field survey conducted at the end of 2020 by Fapeo, the Comité des élèves francophones (CEF), and the Centre d'expertise et de ressources pour l'enfance (Cere), which evaluated the impact of hybrid education in the COVID-19 period. According to Fapeo, the official services recorded almost 40% more reports of absences between the first ten weeks of the 2019-2020 school year and the first ten of the 2020-2021 school year: from 5,676 pupils with at least nine half-days of absence on 15 November 2019 to 7,838 in the same situation a year later.

For the total 2020/2021 school year, the education administration in the Wallonia-Brussels Federation has opened 49,405 files for absenteeism. The administration has opened 4,430 files for absenteeism in nursery education, 19,779 in primary education and 25,196 in secondary education. Taking all levels of education together, pupil absenteeism rose from 6.59% to 8.95% in Brussels (an increase of 36%) and from 4.49% to 6.5% in Wallonia (45% increase). These figures may be

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[90] https://www.lalibre.be/belgique/enseignement/2021/01/09/labsenteisme-scolaire-a-fortement-augmente-pendant-la-crise-WD5JVEJP75GHHD5E6OIVGZ4GXI/

underestimated, as absences from distance learning courses have not always been recorded. In the second and third grades of secondary education and in specialised education, where possible, hybrid learning was implemented between 16 November and 7 May, i.e. for a large part of the school year[91]. During the corona pandemic, the Wallonia-Brussels Federation aimed to limit the number of permanent exclusions as much as possible during the school year 2020-2021. To that end, measures concerning absences were used in a more tolerant and flexible way and refusals of re-enrolment, as well as exclusion from schools, had to be justified by serious facts. In practice, however, schools differed considerably in terms of their responses. Media reports suggest that too many schools and teachers did not change their practices even though the 'COVID-19' circular recommended it. The latter, however, does not imply that they did not pay particular attention to pupils living in difficult circumstances.

8.3   France

In France, to measure the absenteeism of pupils subject to compulsory education, the threshold of four unjustified half-days of absences per month has been adopted. This threshold is set by the law on school attendance. Student absences are systematically recorded and are the subject of weekly reports to the directorates of the national education department and the rectorate. The general guidelines and measures against absenteeism are defined at the academic level (Circulaire n° 2014-159 du 24-12-2014). Therefore, in each school district, the rector defines the general guidelines for combating absenteeism and ensures the consistency of the measures taken by the national education services at the departmental level. It organises the pooling of experiences and offers academic management tools. It sets up special support for colleges and high schools where absenteeism is the highest[92].

In accordance with the provisions of Article R. 131-5 of the Education Code, each school records pupil absences and calls the pupils. In secondary school, the use of electronic recording devices is privileged with the respect to the provisions of the law n° 78-17 of January 6, 1978, modified relating to data processing, files and freedoms. The *SIECLE Vie scolaire* application, provided by the IT services of the national education system is recommended for secondary schools[93].

In each school, absenteeism rates are monitored class by class and level by level. When the absence of a student is noticed by a teacher or by any staff responsible for an activity organised during school time. In secondary schools, it is reported to the principal education advisor (*Conseiller principal d'éducation, CPE*) or, in the absence of a CPE, directly to the head of the school.

In January 2020, 6.8% of the pupils were absent without justification for four half-days or more. This absenteeism rate is 4.4% in collèges and 7.6% in lycées d'enseignement général et technologique (LEGT) and 22.9% in vocational high schools (les lycées professionnels, LP). As every year, the absenteeism rate varies greatly from one school to another. As of January 2020,

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[91] Enseignement: le décrochage scolaire a nettement augmenté pendant la crise sanitaire - Le Soir
[92] web page, MENJ https://www.education.gouv.fr/bo/15/Hebdo1/MENE1427925C.htm
[93] MENJ Bulletin https://www.education.gouv.fr/bo/15/Hebdo1/MENE1427925C.htm

absenteeism affects less than 3% of pupils in half of the secondary schools, whereas, in 10%, it exceeds 19.3%[94].

In spite of the pedagogical support, it is estimated that, for nearly 4% of the pupils (the rate might rise to 25% or more in vocational education) a connection could not be maintained during the lockdown[95].

8.4   Greece

In Greece the *myschool*, as mentioned earlier, is a platform only for administrative and management purposes. It is a management information system that serves teachers and especially headteachers, with their daily routine regarding logging in pupils' details, reporting absences, exporting in spreadsheets or other formats, logging in marks, preparing certificates, transferring pupils' details to other schools due to a change in a new address. Schools must take the attendance register at the start of the first session of each school day and once at the end of the day. On each occasion, they must record whether every pupil is: (1) present or absent, (2) attending an approved educational activity, (3) unable to attend due to exceptional circumstances; or (4) not attending in circumstances relating to coronavirus (COVID-19) or closure of whole classes or school due to COVID-19. This means that during the pandemic being absent due to COVID-19 was registered. Unfortunately, we do not have any data that would show how often this code was used in practice.

The significant modification in place for March 2020-June 2020 and the school year 2020-21 in Greece was that all absences would not be taken into account at the end of the year. However, the teaching staff board was in charge of deciding upon each case and whether they should consider both modes of attendance (face-to-face & remote teaching).

8.5   Poland

In Poland, the school superintendent's offices did not keep statistics on student attendance during online lessons. Supervision of 'online truants' is considered an internal issue that is handled by school principals. As with in-class lessons, pupils have a school duty and teachers should hold them accountable for this. The provision of § 1 point 7 of the Regulation of the Ministry of Education of 20 March 2020 obliged school directors to determine the way of documenting the fulfilment of tasks by the school. The task of teachers under normal conditions of school operation is, inter alia, to record the attendance of pupils in class in logbooks (see section 4). This task under the conditions of limited school operation is not feasible, which is reflected in the MEN guide: "Distance Learning: A Guide for Schools". Indeed, even the student's logging into the educational platform does not have to be tantamount to his/her participation in the classes. A student could log in during remote classes, but not participate in them (a phenomenon referred to with the term 'remote truants'). If the school used other remote learning methods, it also had no way of recording attendance. The MEN's guide suggested verifying the provisions of the school statute regarding the conditions and manner of internal school assessment (if there was such a need). If there were provisions in the statute

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[94] https://www.education.gouv.fr/en-janvier-2020-l-absenteisme-touche-en-moyenne-68-des-eleves-du-second-degre-public-322778

[95] https://www.cedefop.europa.eu/nl/news/france-COVID-19-crisis-ensuring-continuity-learning-vocational-training

concerning the determination of pupils' attendance at remote classes, then in the absence of legal regulations in this respect in the aforementioned regulation, internal regulations should be applied. In any situation where neither the regulation nor the statutes define the procedure in a given situation, the best solution seemed to be to act in favour of the student. In other words, it was considered appropriate to calculate attendance only until the schools are closed and for the time of remote teaching not to determine attendance or to assume 100% attendance.

Moreover, the regulation of the Minister of National Education of 12 August 2020 and the Regulation of the Minister of Education and Science of 5 November 2020 said nothing about whether a teacher or lecturer could enter an absence for a person who did not switch on the webcam during classes; they only used the wording 'distance learning methods'. This general formulation left schools free to choose distance learning methods. But beware: if the school does not make the appropriate equipment available to the student, and the student informs the school of the lack of equipment (e.g., a webcam), the school has no right to make the student's grades or attendance in class conditional on the use of the webcam.

In 2020 a study revealed that distance education was accompanied by the problem of pupils disappearing from the system. According to this study among 700 teachers (September – October 2020) by Centrum Cyfrowe the Digital Centre (Buchner & Wierzbicka, 2020), the disappearance of pupils from the remote education system was an extremely frequent phenomenon and affected children at all levels of education. As many as 48% of teachers in primary, secondary, and technical schools indicated that at least one of their pupils had disappeared. In vocational schools, the problem of disappearing pupils was experienced by 58% of teachers. Disappearing pupils were defined by teachers as those who did not turn up for online lessons, did not read assignment messages (or read messages but did not open attachments), and did not return homework or did so infrequently. Due to unclear attendance guidelines (in many schools it was considered that absences could not be inserted for remote learning), such pupils were often promoted to the next grade.

But many questions about this phenomenon – such as the scale of the phenomenon, what happens to the pupils who disappear, and how teachers can be supported to reach pupils - remain unanswered.

9   Challenge: Getting a good sight on learning losses

As shown in Section 6, the number of school days that were lost due to school closures varied considerably between the regions that we study here. However, even in those regions where school closures were limited, a meaningful number of school days were lost. Moreover, experiences with distance learning suggested that learning losses might be unevenly distributed over the student population. The first step to develop a successful strategy to curtail these learning losses was to get a good sight of the exact nature and magnitude of these learning losses. The OECD has pleaded in this context for standardised testing. Standardised assessments and final examinations can not only provide a means to keep a close eye on the general learning gaps among pupils. They are also an excellent means to keep track of the evolution of social inequalities in educational outcomes and may help to identify the pupils who were affected most. Results from the OECD also show that in countries

that did not assess learning gaps, about two-thirds did not implement remedial measures for pupils (OECD, 2021b).

Regarding standardised testing, the cases that we study here reveal two challenges. First, some countries (e.g., Belgium) did not have standardised tests or final examinations pre-COVID-19 and they did not implement them during the COVID-19 pandemic. Second, some countries had standardised tests or final examinations but adjusted the content so that pupils would not get questions regarding topics that were not covered; some countries cancelled the examinations altogether.

In this section, we provide for each of the regions that we study an overview of the initiatives that were taken and their results. Except for Belgium-Flanders none of these regions were included in the most recent systematic reviews on learning losses that have been published in the scientific research so far. Donnelly and Patrinos (2021) identified eight studies; seven of these found evidence of student learning loss amongst at least some of the participants, while one of the seven also found instances of learning gains in a particular subgroup. The remaining study found increased learning gains in their participants. Additionally, four of the studies observed increases in inequality where certain demographics of students experienced learning losses more significantly than others.

Hammerstein et al (2021) found evidence for a negative effect of COVID-19-related school closures on student achievement in OECD countries. The reported effects are comparable in size to findings of research on summer losses. This indicates that a lot of remote learning measures implemented during the first school closures in spring 2020 appeared not to be that effective for student learning since the effects achieved were similar to those achieved when no teaching was implemented at all during summer vacation. Specifically younger children and children from families with a low SES were negatively affected by COVID-19-related school closures. However, Hammerstein and colleagues could also identify online-learning measures that seemed to be beneficial for student learning. In schools already working with online learning software, positive effects of school closures on student achievement were reported. The positive effects on performance in such online-learning programs may have occurred due to the increased use of the software during school closures and the fact that students from these studies were familiar with working with online-learning programs, hence, did not have to adapt to a new learning environment during COVID-19-related school closures.

9.1   Belgium-Flanders

During the first lockdown, a discussion emerged concerning whether or not exams had to be organised at the end of the school year. On the one hand, it was argued that exams would be an excellent means to get sight of learning losses. On the other hand, people argued that schools could better use their time to catch up on teaching and learning losses as much as possible. The Flemish Minister of Education wanted exams to be organised. However, schools in Flanders have full autonomy to follow this or not. This caused a lot of reactions from the school networks. The official education (Go!) advised schools to cancel exams in 2019-2020 and instead apply a 'permanent evaluation' in which the learning process of the past school year is taken into account. The network of Catholic schools left the decisions to schools and stated that exams could be held if the school

deemed they were necessary. Some schools cancelled exams for everyone, some schools opted to organise exams for pupils from the sixth or seventh year.

In Belgium-Flanders there are no central exams. However, the network of Catholic schools (the largest provider of education in Flanders) administers standardised tests every year in June among pupils in the last grade of primary education to enable schools to self-evaluate their pupils' performances. The standardised tests cover subjects like mathematics, Dutch, social sciences, science, and French. This creates unique data whereby exactly the same standardised tests were administered pre-COVID-19 (2015-2019) and during the COVID-19 pandemic (2020, 2021).

Maldonado and De Witte (2021) could analyse these data and found that the pupils of the 2020 cohort experienced significant learning losses in all tested subjects with a decrease in school averages of mathematics scores of 0.19 standard deviations and Dutch scores of 0.29 standard deviations as compared to the previous cohort. Moreover, they also found that inequality within schools rose by 17% for mathematics and 20% for Dutch. Between-school inequalities rose by 7% for mathematics and 18% for Dutch. The learning losses were larger in schools with a more disadvantaged student population. For all these results, we should also take into account that pupils from the last grade of primary education were among the first to go back to school in Flanders[96], suggesting that for pupils in other grades the learning losses might even be larger.

This research was extended with data from 2021 (Gambi & De Witte, 2021). One of the main findings of the 2021-study indicated that the resilience of schools differed per subject. The researchers, for example, found additional deficits for Dutch and French, whereas for mathematics the decline that was observed between 2019 and 2020 was halted but not reversed in 2021. For science and social science, there seems to be a (non-significant) improvement between 2020 and 2021. Another important finding related to differences between subgroups in the way the pandemic had an effect. Indeed, for mathematics, it was found that the test scores of the best-performing pupils in the school had significantly declined between 2020 and 2021, while those of low-performing pupils seem to have slightly (and non-significantly) improved. In 2021 the school differences seem to have increased for Dutch and decreased for mathematics. Regarding policy implications, the authors suggest that the measures focusing on the most vulnerable pupils might have been paying off, but it is clear that further policy attention should be given to the best performing pupils as they seem to fall behind one year after the start of the pandemic.

Insights on the impact of the COVID-19 pandemic can also be obtained from new reorientations of different study tracks. De Witte (2021)[97] showed that after Christmas 2020 about 12% more pupils were reoriented from the general track to the technical, vocational, or art track. This was particularly the case in the first four grades of secondary education. This observation may indicate that some pupils passed in the preceding school year without really meeting the required standards.

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[96] In Flanders from May 15 2020 onwards, grades 1, 2 and 6 of primary education and the last year of secondary education were partially re-opened. Pupils in grade 6 were allowed to attend school for a maximum of two full days, or four half-days per week, while remote teaching was kept on days when pupils had to stay at home. Other pupils had to wait until June 8 2020 to go back to school.
[97] https://feb.kuleuven.be/drc/LEER/downloads/vlaams-parlement-leerachterstand-12-03-2021.pdf

9.2   Belgium-Wallonia

The French Community organises standardised tests and certifications evaluations that question pupils on the basis of a test with the same instructions, questions, and marking criteria for all[98]. The tests are linked to the awarding of a Certificate. There are three relevant certificates. First, the Certificate of primary education (CEB : Certificat d'Etudes de Base). The test is compulsory for all pupils in the 6th grade of primary school in regular education, pupils in 1st, 2nd differentiated year or attending an additional differentiated year of form 4 ordinary or specialised secondary education, pupils enrolled in the 1st common year of ordinary or specialised secondary education (form 4) who do not already hold the CEB, and pupils in home education who will have reached the age of 12 on 31st August of the current calendar year. Second, the Certificate of first stage of secondary education (CE1D : Certificat d'Etudes du premier degré de l'enseignement secondaire). The test assesses the mastery of skills as described by the core skills, in four disciplines: mathematics, French, science, and modern languages. It is compulsory for pupils in the second year of common or complementary secondary education or the second year of ordinary or specialised secondary education of form 4. Finally, the Certificate of Upper Secondary Education (CESS : Certificat d'Enseignement Secondaire Supérieur).

So although in principle this should have provided an ideal basis to assess learning losses due to school closures, the government decided that for 2020 all external certification tests were abolished (CEB, CE1D, and CESS). The reason for this was that some of the subjects were not seen and school closures had led to a general lack of practice, so the common external certification tests were no longer adapted to the level of the majority of pupils. For a range of practical reasons, it was impossible to change the content of the tests, for example by removing some questions that would cover unseen material because schools did not approach all subjects in the same order. Removing parts of the subject matter from these tests would not be relevant. Moreover, the time usually devoted to these tests and examinations could be usefully recovered to make up for the learning loss during the period of lockdown. In view of these elements, and of the important adjustments that would be necessary for the reception of pupils when lessons resumed, the government decided to cancel the external certification tests and encouraged the continuation of learning as long as possible to avoid further learning losses. Schools were also encouraged to make sure that summative assessments would not be concentrated in the form of an end-of-year session (exams) and only relate to subjects that had been taught in class. The granting of the certificates was therefore decided by the school jury or the class council.

For the school year 2020-2021 the government decided that there would be no end-of-year exam session for official school pupils. From the first year of primary to the seventh year of secondary education, the 127,000 pupils in the network organised by the French Community (about 15% of the pupils) had no final exams.

However, this decision did not affect the external evaluations at the primary level: the CEB, CED, and CE1D took place this year. In secondary education, only the CE1D (at the end of upper secondary) and CESS (at the end of secondary) certification tests were held. Pupils in 6th and 7th grade of secondary education were the only ones to be subjected to summative tests (assessment

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[98] https://eacea.ec.europa.eu/national-policies/eurydice/content/assessment-general-lower-secondary-education-3_en

tests, with points) or qualification tests (for vocational courses). However, these tests were limited to 7 half-days in order to be able to run as many classes as possible during June. Secondary first-year pupils were assessed, but only 'diagnostically', i.e. without any effect on the transition from one grade to another. This possibility was also open for secondary 3, 4 and 5, but the choices were left to each school. Schools were advised that grade repetition had to remain 'exceptional' again this year and there was no second session in September.

In the other education networks (municipal, provincial or free), the organisation of the June exams was less uniform. Education Minister Caroline Désir (PS) had called on schools to show goodwill in view of the complicated school year experienced by pupils. However, in the name of the principle of pedagogical freedom, she could not impose the same attitude towards exams on all schools in Wallonia and Brussels. Some schools, therefore, organised a full examination session, while others could completely renounce it, or reduce it considerably. On the side of Catholic education, the Segec for example did not give directives and left it to the schools to decide on the organisation of the end of the year.

There were no studies assessing the impact of COVID-19 on learning losses, but some studies mention a subjective feeling among teachers about learning losses or rising inequalities. A survey, conducted online from 30 September to 7 November 2020 by UMONS researchers among nearly 1,000 teachers in a nursery, primary and secondary education in the Wallonia-Brussels Federation, focused on the teaching practices adopted at the start of the 2020-2021 school year. According to the results, 92% of the responding teachers agree that school inequalities have increased with the lockdown. More than 50% of them believe that the gap between weaker and stronger pupils has increased and that this gap was already visible at the start of the school year in September 2020[99]. For the CEB in primary education, however, there were no large differences in June 2021 compared to June 2019 (there were none in 2020). There was a success rate of 88.32%, announced the education administration of the Wallonia-Brussels Federation. A figure that is slightly lower than that of 2019 (-2%), suggesting no impact of COVID-19. Compared to 2019, the results were a bit better for French, and a bit worse for mathematics in 2021. It must be mentioned that in order to respect the sanitary conditions, teachers exceptionally corrected their own pupils' tests in 2021 which could have blurred the comparisons that can be made with previous years.

9.3   France

In France, the content of the final examinations in upper secondary education was changed. One disadvantage of this, however, is that by adjusting or even cancelling the exams, one also loses track of the potential learning gaps caused by the lockdowns. Indeed, in France, the final examinations in VET were cancelled and VET pupils' achievements were assessed based on the results of continuous assessments. Interestingly, the graduation ratio in 2020 (about 89%) was much higher when compared to 2019 (about 80%) (OECD, 2021a: 14, figure 8).

In terms of equity, reports based on standardised assessments raise some concerns about growing educational inequalities after the school closures (OECD, 2021a). In France, it was found that

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[99] https://web.umons.ac.be/efe/fr/comment-depuis-cette-rentree-la-crise-sanitaire-a-impacte-les-pratiques-pedagogiques-et-augmente-les-inegalites-scolaires/

although there was a clear decline in reading performance and mathematics in primary education in September 2020, this pattern was reversed by January 2021. Pupils from disadvantaged schools, however, showed lower improvements in reading than their peers over this period[100].

In France, the *Direction de l'évaluation, de la prospective et de la performance* (DEPP) is measuring the impact of the pandemic on the results of the pupils. For secondary school, DEPP based its study on the results of the pupils at national evaluations at the beginning of the *6e* (first year of secondary school). Pupils entering general or vocational secondary schools take tests in French and mathematics at the beginning of the school year. This testing makes it possible to assess the knowledge and identify the needs of each student. In addition, the results of this assessment make it possible to draw up a snapshot of pupils' knowledge and skills in French and mathematics as they start secondary school, both nationally and at the level of each local school authority.

The results of the national assessments carried out at the start of the 2020 school year were used to estimate the impact of the crisis in order to shed light on the issue of inequalities in student achievement compared to the 2019 start of the school year according to gender, social origin, age, territory. In addition, specific questionnaires linked to the COVID-19 crisis were backed up by the student assessment systems. For secondary school pupils, a short questionnaire for pupils at the end of the first evaluation sequence and a more complete questionnaire for the 6th sample experiments were planned with the Scientific Council for National Education. In November 2020 'French national evaluations contribution to the analysis of the impact of the health crisis' report was published by DEPP[101]. According to the report, "The generation that has experienced confinement enters the second grade with less asserted achievements than the generation that preceded it, which had not experienced confinement"[102]. In particular, it concerns the results of the pupils in French (reading and writing). The decline in the results is less evident but still present when it comes to maths. Moreover, according to the report, the learning losses for 'socially fragile' pupils were more significant compared to the learning losses of the pupils from socially advantaged areas[103].

9.4 Greece

In Greece, schools were immediately closed during the first lockdown (March 2020) in the school year 2019-20. The attendance was not registered in the myschool administration system. The education resumed from remote to face to face on the 1st of June 2020. At that time, the absences of pupils of Preschools, Primary Schools, Special Education, and Primary and Secondary Education School Units had not to be taken into account for the characterisation of their attendance, provided that their parent or guardian or the student himself/herself (if he/she is an adult, submits a solemn declaration that the student belongs to a group at increased risk for COVID-19 or is in close contact with a person in his/her family environment who belongs to the above-increased risk group or is already ill. In addition, the final school exams in Secondary Education were cancelled. However, the Pan-Hellenic Exams applied only to the 3rd Year of all General and Vocational Lyceums in the country, for admission to Higher Education (HE) was delivered face to face since an action plan of measures

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[100] https://www.education.gouv.fr/evaluations-2021-point-d-etape-cp-premiers-resultats-322673
[101] https://www.education.gouv.fr/les-evaluations-nationales-exhaustives-307627
[102] ibid
[103] ibid

for COVID-19 was in place. In order to facilitate this process and take into account the difficulties that occurred in the last months, the Ministry of Education and Religious Affairs redefined the examination syllabus with a proportional reduction in all nationally examined subjects.

The same procedures in terms of exams applied to the school year 2020-2021. However, the staff board was in charge of deciding upon absences other than those referred above and if they would be registered to myschool system.

9.5   Poland

In Poland, the trial eighth-grade exam and the trial baccalaureate exam had in 2020 to be organised for the first time online. Therefore, they were not mandatory. Those who had access and a good Internet connection could participate between 30[h] March and 8 April. The Director of the Central Examination Commission has been authorised by the MEN to change the timetable for external examinations. The exams were postponed and took place as follows: baccalaureate – high school graduation exams (8-29.06), only in written form, the oral part of the exams was cancelled; exams for 8th grade (16-18.06); exams confirming qualifications in professions (22.06-9.07); vocational exams (17-28.08). Just like in France, in Poland the content of these exams was adjusted due to the COVID-19 pandemic, rendering it impossible to use the results to assess the magnitude of the learning losses of pupils.

For the school year, 2020-2021 the 8th-grade exams and the baccalaureate were held on normal dates in May 2021, but the requirements were reduced (there was no selected content from the core curriculum in the exams). In the case of the Baccalaureate, the obligation to take an oral examination and an examination in one additional subject at an extended level was abolished.

In Poland, no initiatives were undertaken by the government institutions to get a view of the overall impact of the COVID-19 pandemic on young people's educational outcomes. However, different reports based on surveys among teachers reveal some important challenges regarding the evaluation process. Teachers indicated that it was difficult to give tests and exams to mark pupils' study results: how can one be sure that the student will not check the answers online or on their phone, or even in their notes? Sometimes teachers told pupils to look straight at the screen and answer the question quickly, but this only worked in some situations (e.g., country capitals in Geography) and not in others (e.g., solutions to calculation tasks in Maths). Some pupils thought that the high marks in these classes did not reflect the actual state of knowledge and this was not fair in their eyes. Moreover, teachers reported having the feeling that social inequalities in educational outcomes must have grown since some pupils for a variety of reasons (low educated parents, no stable Internet connection, etc.) did not receive the necessary learning support at home. In the report of the Centrum Cyfrowe, 36% of teachers indicated that the lack of equipment is the main problem of remote education. In a survey of principals conducted by the Institute of Public Affairs, as many as 81% of schools indicated the problem of pupils' access to devices enabling remote education. Another issue is the quality of the Internet connection - this concerns mainly smaller towns (43% of teachers, who in a survey conducted by the Centrum Cyfrowe identified the problem with pupils' connections as the main one, come from towns below 10,000 residents). The problem of deepening inequalities affected especially disadvantaged families and communities and inevitably increased the already existing differences in access to education. Digital exclusion did not only affect individual children or

families but often entire schools, which had been less well-financed and managed or had simply never prioritised education using new technologies.

There was an ad hoc action regarding the unusual pandemic situation- in order to prepare adequate support for pupils after the period of remote learning - psychological and pedagogical assistance, experts from the Institute of Integrated Prevention, commissioned by the Ministry of Education and Science prepared a report "How to support pupils after the epidemic year?"[104]. This material is based on the results of surveys conducted among pupils, parents, and teachers between April 2020 and January 2021. At the start of the epidemic, in April 2020, an online survey was conducted with N=2,476 respondents aged 12-19 years who participated. The aim of this report was to develop recommendations for the school environment to use after the return to schools in the areas of education, mental health, and prevention of problems for children and young people resulting from a prolonged pandemic. Several reports, however, show that the pandemic has highlighted deficiencies and weaknesses in the Polish education system, and ad hoc responses can only - intentionally or not - perpetuate them[105].

10 Challenge: Remedial programs that aimed to compensate for learning losses due to school closures

From the previous sections it became clear that no matter how much effort schools invested in optimising digital learning, the COVID-19 pandemic had a severe impact on the learning of young people. Policymakers were also worried that these learning losses would be more unevenly distributed over the school population with pupils who lived in a socio-economic deprived situation being much more vulnerable (OECD, 2021b). So even though in many countries learning losses were not measured, several countries felt the need to set up remedial programs that aimed to compensate for these learning losses and the social differentials in them. Often these remedial programs took the form of 'summer schools', which are classes that were taught during the summer holiday and in which teaching was combined with sports and cultural activities. Below we provide an overview of the specific initiatives that were taken in the regions that we study.

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[104] https://www.gov.pl/web/edukacja-i-nauka/program-wsparcia-psychologiczno-pedagogicznego-dla-uczniow-i-nauczycieli-w-pandemii
[105] A few examples (the conclusions of these reports have been used throughout this report): https://oees.pl/wp-content/uploads/2020/08/Raport-edukacja.pdf   ; https://www.nask.pl/pl/raporty/raporty/2593,Raport-z-badan-quotNastolatki-30quot-2019.html   ; https://centrumcyfrowe.pl/edukacja-zdalna/ ; https://centrumcyfrowe.pl/spoled/edukacja-zdalna-w-czasie-pandemii-2-edycja/   ; https://www.isp.org.pl/uploads/drive/aktualnosci/RAPORT_Dyrektorzy_do_zadan_specjalnych_08.06.pdf

10.1   Belgium Flanders

In 2020 the Flemish government[106] initiated summer schools (*zomerscholen).* Also in the summer of 2021 summer schools were organised. In a summer school, pupils enrolled in primary or secondary education follow during July and August (i.e., the summer break in Belgian education) a learning trajectory of at least 10 days (or 20 half a days). In this trajectory, learning was combined with sport and play. Participation in summer schools occurred on a voluntary basis and was free of charge. Pupils who enrolled in a summer school could use free public transport to go to school. The practical organisation of the summers schools was in the hands of the participating schools[107] and local communities. Each summer school chose one or two courses or study domains (mathematics and Dutch were most often chosen) on which they would focus and either provided remedial education or education that prepared/stimulated pupils for the coming school year. In 2020 7521 pupils participated (most of them in primary education). The Flemish Department of Education provided webinars and other materials to support the participating schools. An evaluation study of the 2020 edition of the summer schools (Verachtert et al., 2020), showed that summer schools succeeded in reaching vulnerable pupils who are likely to benefit from additional educational support. Most participants and schools were very satisfied and the level of perceived efficacy was high. The evaluation, however, also revealed points for improvement. One of the big challenges and pitfalls was that some of these summer schools focused on too broad a range of (educational) goals. As a consequence, remedying learning gaps was not always the central objective. Moreover, schools did not always have a clear view of the learning needs of the participating pupils. Also, the evaluation of the learning progress was not strongly developed in every summer school. Summer schools also struggled to find a sufficient number of teachers and appointing additional teachers turned out to be complex[108]. Based on the experiences of the first edition of the summer schools, the inspiration guide for schools was developed to help them (Verachtert et al., 2021). The plan is to continue these summer schools also in the future. In Belgium-Flanders discussion about summer schools is strongly connected with a discussion about the length of the summer holiday (9 weeks). According to many experts, the long summer holiday leads to huge learning losses, especially among pupils with a weak social background.

Maldonado and De Witte (2021) and Gambi and De Witte (2021) could link pupils' test scores (last year of primary education) to the organisation of summer schools. To that end, they divided schools into two groups according to whether or not the school was located in a postcode area where a summer school was organised during the 2020 holiday. The results showed that in 2020 and both for Dutch and mathematics the impact of COVID-19 was more outspoken in areas where a summer school took place, underscoring the need to organise summer schools in these areas. For 2021, a different picture emerged, and attainment gaps halted for both Dutch and mathematics in the postcode areas where a summer school took place while in areas where no summer school was organised the attainment gaps increased. Moreover, in areas where a summer school was organised the attainment gaps in both Dutch and mathematics were halted in schools with a larger share of

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[106] https://onderwijs.vlaanderen.be/nl/zomerscholen
[107] In the summer of 2021 118 schools organised a summer school in Belgium-Flanders. In the summer of 2020 138 schools organised a summer school.
[108] See https://onderwijs.vlaanderen.be/nl/zomerscholen/personeel-aanwerven-of-inzetten-voor-de-zomerschool for an overview of the different forms of appointment, remuneration, etc.

less-educated mothers. This suggests that summer schools are an effective means to compensate for the lack of parental support in learning.

In the fall of 2020, the Minister of Education together with the vzw *Schoolmakers* also invested in a buddy project to eliminate learning disadvantages among pupils. Specifically, pupils from the 2nd or 3rd year of teacher training could choose to work as a 'buddy' with a small group of pupils at school. In this way, pupils who have difficulty working independently can be tutored[109]. No information was found concerning how many pupils were reached with this initiative.

10.2   Belgium - Wallonia

The Wallonia-Brussels Federation released 3 million euros to help the communes of Wallonia and Brussels to organise remedial courses in the summer of 2021 for their secondary school pupils. This operation, called 'Pleasure of learning' (*Plaisir d'apprendre*), had to be spread over 5 to 10 days during the summer holidays[110]. 'Pleasure of learning' aims to provide certain pupils with support aimed at combating school and social dropout through remediation and academic support coupled with sports and/or cultural activities. Remediation and tutoring focus on the following subjects: French, mathematics, science, and languages. It had to cover at least 50% of the activity time offered to the pupils, the rest being able to be divided into various sports and/or cultural activities.

The 'Pleasure of learning' operation also aimed to enable the engagement of pupils from Universities, Hautes Ecoles, and Colleges of the Arts to ensure the supervision of pupils. The student jobs thus created aimed to compensate for a possible reduction in teacher supply linked to the COVID-19 health crisis. The engagement of volunteers with proven experience in remediation or academic support, including serving or retired teachers, was also offered.

No official data was found regarding the effective number of pupils that participated in the initiative. A newspaper article, however, indicated that only 652,000 euros of the 3 million available was used and 5,374 pupils participated in it[111].

10.3   France

In *France* remedial programs with a special focus on pupils who were unable to access distance learning, pupils at risk of dropping out, or repeating a grade were already in place prior to the pandemic. For example, for college pupils there are such programs as Homework done (*Les devoirs fait*, a dedicated hours of accompanied study to help pupils complete their homework), Educational support and Personalised support (*L'accompagnement pédagogique, L'accompagnement personnalisé*); Support for pupils with special educational needs.

Additionally, the program 'Learning Holidays' (*Vacances Apprenantes*) was implemented during the summer holidays in 2020 and in 2021 to support pupils that may have been particularly affected by the consequences of the COVID-19 crisis. The initiative is expected to benefit one million children, builds on the cooperation with local authorities and associations, and has two objectives: (1) to

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[109] https://www.benweyts.be/Studenten-en-scholieren-werken-als-buddy%27s-leerachterstand-weg ; https://leerbuddy.vlaanderen/

[110] Enseignement secondaire: la FWB va aider les communes à assurer des remédiations cet été (rtbf.be)

[111] https://www.lecho.be/economie-politique/belgique/general/debut-en-mode-mineur-pour-plaisir-d-apprendre/10315881.html

address learning gaps and reduce the risk of school dropout and (2) to ensure children's access to enriching experiences during summer vacations. The initiative was open to all pupils but had a strong focus on reducing social inequalities. It took place both within and outside of schools. Several education programs were put in place: Open school (*Écoles ouvertes,* educational programs combining academic, sport, and cultural activities), My heritage by bike (*Mon patrimoine à vélo*, cycling program to discover local heritage), and Summer Pro (*L'été du pro,* educational programs that provided vocational school pupils with access to the technical platforms and tools inside vocational schools (lycées)). Summer camps named Learning Camps (*Colos apprenantes*) were also offered to pupils (150,265 places for pupils[112]).

Another part of this remedial program initiative was labelled Internship for success (*Les stages de réussite*). It was offered to pupils during the summer of 2020 and in 2021 (August and October). It was designed to help pupils to catch up and fill gaps through work in small groups. To provide the remedial classes the program relied on student volunteers. They were deployed in elementary schools and secondary schools, in particular in the areas of greatest difficulty. In 2020, 236,570 schoolchildren and 40,153 middle and high school pupils took part in the success courses of this program[113].

10.4   Greece

In Greece, no remedial programs or extra tutoring programmes were offered to build upon the learning losses due to school closures. However, in April 2020, the Ministry of Education started the provision of technological equipment (laptops, notebooks, tablets) at all schools levels at an intensive pace. This contribution came from private companies, which have donated 15,200 tablet devices and 2,200 laptops for schools throughout the country, worth 2.5 million euros, which is significant. This equipment was meant to be the property of the schools. However, it was available to pupils and/or teachers for temporary use to facilitate the implementation of distance learning and contribute to the deepening of digital skills in the long term.

Furthermore, priority was given to supporting families on the grounds of low income, unemployment of parents/guardians, single-parent, three-children, large or orphan families, special difficulties or exceptional performance of pupils. The exact number of devices per school was determined based on the number of donations, the student population and the existing equipment in the schools. Social criteria were taken into account for the distribution of the devices to the school units, and priority was to outreach groups of the population with low income, special education, vocational education, etc., and the level of education. Therefore, the Ministry had ensured that all schools would receive portable devices.

In November 2020, the Ministry of Education provided 65,965 portable devices worth more than 20 million euros through National Funding & European Funding. Also, 25,648 portable devices worth more than 4 million euros through donations were secured for primary and secondary schools throughout the country, responding to the unprecedented conditions caused by the pandemic. The latter was launched in spring 2020. More specifically, the totals of tablets and laptops for all

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[112] https://www.education.gouv.fr/les-colos-apprenantes-304050
[113] https://www.education.gouv.fr/les-stages-de-reussite-1121

educational levels went from 4.550 in June 2019 to 40.278 in November 2020 and 87.093 in February 2021, which shows an enormously organised and efficient investment for improving the quality of education.

10.5 Poland

In Poland, no remedial programs were offered to compensate for the learning losses due to school closures. As part of financial aid for pupils, in the school year 2020/2021 the Ministry donated PLN 209 million (~EUR 45 mill.) for scholarships and benefits. 182,267 pupils received scholarships, and 6,415 pupils received benefits. Additionally, under the program "The government program to help disabled pupils in the form of co-financing the purchase of textbooks, educational materials and exercise materials in 2019-2022", in 2020 approximately PLN 10.4 million (~EUR 2,3 mill.) was allocated to textbooks and exercises for secondary school pupils with disabilities. 34,571 pupils benefited from the support.

11 Summary and concluding words

11.1 Context and structure of the report

The COVID-19 pandemic has led to one of the most abrupt interruptions of education in recent history. From March 2020, lockdowns were put in place in most European countries and schools were closed. Schools and teachers did their utmost to organise distance learning while they were venturing into unknown and difficult territory.

Research shows that school systems were not very well prepared for distance learning (OECD, 2020b; Van de Werfhorst et al., 2020). In addition, the COVID-19 pandemic has disrupted all aspects of young people's lives in an unprecedented way. The overall result was that young people who were living in a vulnerable situation were affected most. In many countries schools struggled to stay in contact with all pupils and stories circulated about pupils who went off the radar. Practical problems such as the availability of a quiet place to study, access to a computer or another device, and access to a stable (broadband) Internet connection, implied that material deprivation could have a much stronger effect on educational outcomes than before and is likely to have exacerbated existing inequalities.

The COVID-19-pandemic, however, has also entailed some new opportunities. The digital transformation, for example, got strongly boosted. What in normal times would have taken years, was now accomplished in a short period of time, and by now there seems to be a clear sense of urgency among governments for further improvements in this context. Teachers and school staff showed high levels of creativity to limit learning losses and a lot of materials for remote learning have been developed. The most important task now is to (1) learn from the experiences in different countries and (2) align short-term emergency responses with investments into long-term educational objectives, so that we can take full advantage of the opportunities of the COVID-19 pandemic.

Against this background, this report focuses on the different policy responses in four countries (5 regions) in Europe, namely Belgium-Flanders, Belgium-Wallonia, France, Greece and Poland. It aims to bring together and provide a narrative review of different policy responses. The observation period runs from March 2020 to May 2021 (the end of school year 2020-2021) and the primary focus is on secondary education. Finally, we focus on the country/regional level. This means that we searched for general patterns while conducting a study on educational policies. More specific school policies, innovative teaching practices and technological tools are studied in other work packages (WPs) of the KEEP project.

The report is organised as follows. First, we give a brief description of our methodology and subsequently provide a description of the educational systems that we study. Next, we describe the pre-COVID-19 situation in terms of, on the one hand, school absenteeism and early school leaving and, on the other hand, the digitalisation of education. This pre-COVID-19 situation sketch provides a clear overview of the different starting points of each educational system when entering the pandemic. Then, we discuss how the COVID-19 pandemic unfolded in the countries (school closures, etc.). This is followed by a description of various challenges that COVID-19 posed to the educational systems. We have organised all this in four broad topics to launch a discussion on how the studied

regions were able to cope with these challenges (e.g. distance learning, school absenteeism, learning losses, remedial programs and compensation for learning losses).

What follows is a summary in (country) comparative terms, for specific (country) details we refer to the respective chapters.

11.2   Methodology

The situational review was based on intensive desk research: data were gathered in two ways. First, we conducted a literature review. We paid specific attention to reports that adopted a comparative perspective. Institutions like EURYDICE provide excellent comparative information about the structure and organisation of education in European countries and more specific documentation about topics like digital education, early school leaving and tackling school absenteeism. These reports provide a good source to describe the starting position of the regions that we study when the COVID-19 pandemic started. Regarding the latter, organisations like the OECD or UNICEF have organised surveys that assessed country policies' responses to the COVID-19 pandemic and descriptive data concerning the educational challenges related to this pandemic. We used the information of the reports published on these data. The OECD also provided access to their original database of the Special Survey on COVID-19 so that we could select data for our four countries (five regions) that were not provided in the OECD's original reports.

Typical for these reports, however, is that they provide a good helicopter view by presenting information in a more standardised way thereby sometimes neglecting some particularities of the local context. Therefore, this report seeks for the four countries (five regions) that we study to complement this information with more contextual information. It starts from the idea that educational systems are first and foremost systems with interrelated elements. Getting a good grip on these systems and how they responded to an unprecedented challenge like the COVID-19 pandemic, requires more context information to be included. To that end, secondly, we developed a questionnaire with open questions that was sent to the members of the KEEP-consortium. This questionnaire provided additional background information and more specific information concerning the different strategies followed by the governments of the four countries (five regions) that we study in this report. The information was gathered in an iterative way. After a first round of data collection with the partners, we analysed the data and wrote the first draft of the report. The participating partners commented on this first draft and provided additional information to fine-tune the results. On this basis a corrected version of the report was drafted. This report was again submitted to the partners for a last correction round. This made it possible to finalise the report, also including this conclusion and the links to the other WPs.

11.3   School closures

One of the simplest ways to assess the impact of the COVID-19-pandemic is to study the number of days that got lost due to school closures. Data from the OECD's Special COVID-19 Survey shows that between January 2020 and 20 May 2021 across 30 countries primary schools were closed for 78 days, lower secondary schools for 92 days and upper secondary schools for 101 days (OECD,

2021c). The number of days of school closure represents roughly 28% of total instruction days over a typical academic year at pre-primary and more than 56% at upper secondary level on average across OECD countries.

With regard to the countries under study in this report, a number of conclusions can be derived. First, the countries varied in the extent to which school closures were differentiated by educational level (pre-primary, primary, lower secondary, higher secondary education). In Belgium there was no differentiation of school closures according to the educational level. Also in France differences between the educational levels were modest and much smaller when compared to the situation in Greece, Poland and the OECD average.

Second, some countries reduced the number of pupils per classroom by combining distance learning with in-person learning. In France, for example, in regions with high COVID-19 infections in-person instruction was delivered to the 6th and 7th graders while a hybrid learning arrangement was deployed for the 8th and 9th graders (OECD, 2021).

Third, the Special Survey shows that after a quasi-systematic closure of schools in most countries in mid-March 2020, approaches diverged significantly between 2020 and the first part of 2021. Data from the OECD showed that criteria for deciding to close a school are set centrally in most countries (OECD, 2021). Interestingly, the number of days was not related to the infection rate but primarily determined by the capacity of national health infrastructure. Belgium and France, for example, have not fully closed secondary education between January and May 2021 despite high numbers of COVID-19 infections.

This means that there were large differences in the studied countries regarding school closures. Poland and Greece appeared to have had a lot of school closure days and France (and to a lesser extent Belgium) the least. This means teachers in France and Belgium switched quicker back to face-to-face education or hybrid teaching models as from school year 2020-2021, whereas Greece and Poland had to practice remote learning for longer periods.

11.4   Digitalisation of education before the pandemic

If countries had one thing in common during the pandemic, it is that their education had to switch abruptly to remote learning and digital education. How well prepared were countries for this?

When we refer to digital education, we mean the pedagogical use of digital technologies to support, improve and transform learning and teaching (European Commission/EACEA/Eurydice, 2019: 4). Based on PISA 2018 data, the OECD studied country differences in the percentage of pupils (15-year-olds) that have a quiet place to study, a computer for schoolwork and access to the Internet, that is, the necessary preconditions for effective remote learning. They also analysed socio-economic disparities by studying pupils in socio-economically (dis)advantaged schools. These data provide an excellent starting point for comparison of the four countries. The overwhelming majority of pupils (>90%) in the countries that we study indicated to have a quiet place to study and to have access to the Internet. In Belgium, France and Poland almost all students indicated to have a computer to do homework. In Greece, the latter only applies for more advantaged pupils. Still, about 80% of all students from schools with a more disadvantaged background in Greece indicated having a computer.

In Poland the socio-economic differences are clearly the smallest (almost negligible) when compared to Belgium, France and Greece.

Although the OECD report also discusses relevant findings on how well schools and teachers were prepared for digital (remote) education, the OECD report provides no data that could be easily reused here. Therefore, we performed our own analysis of the school leaders' questionnaire of PISA 2018. In two batteries school leaders were surveyed about (1) the school's capacity to enhance learning and teaching using digital devices and (2) whether the school possessed a range of elements that can be linked to digital education. The results show clear differences between the regions that we study, whereby Belgium-Flanders and France perform much better when compared to the other three regions. This means that in Belgium-Flanders and France the schools had potentially more capacities to switch to remote learning when compared to Poland, Greece and Belgium-Wallonia. A common observation, however, is that in 2018 there was ample room for further improvement in all regions, especially with regard to point 2, the schools' possessions of elements that can be linked to digital education.

The findings for the regions we study here align with a more general pattern. Indeed, using data from the International Computer and Information Literacy Study (ICILS) on seven countries, and the Teaching and Learning International Survey (TALIS) on 45 countries, both from 2018, Van de Werfhorst et al. (2020) demonstrate that schools and students varied in their preparedness for digital education, but that school variation was not systematically related to the student composition by socioeconomic and migration background. More important drivers for a digital divide in corona-times are the ICT skills students have, which in turn are strongly related to socioeconomic background. The authors found little evidence for a digital divide resulting from social gradients in the preparedness of school environments for digital education. Moreover, as the OECD concludes "[…] digital technology holds great promises to provide learners with access to high quality learning. However, most education systems need to pay close attention to ensure that technology does not amplify existing inequalities in access and quality of learning further. This is not only a matter of providing access to technology and open learning resources, but will also require maintaining effective social relationships between families, teachers and students, particularly for those students who lack the resilience, learning strategies or engagement to learn on their own. Technology can amplify the work of great teachers, but it will not replace them." (OECD, 2020: 13)

What we learn from this chapter is that the necessary preconditions for effective remote learning (access to computers, Internet, etc.) were not the same for all students, with students (from schools) with a more disadvantaged background lagging behind. But especially the ICT skills of students are important drivers for a digital divide, which are strongly related to socioeconomic background. An important question for the interviews and focus groups, which are the subject of other WPs, is whether the innovative practices were accessible to all students on the one hand, and whether the innovative practices were also effective for students with a more disadvantaged background who might have lacked some essential ICT-skills on the other hand.

Secondly, the starting position for digital education in schools was highly different in the countries under study, with some regions/countries way ahead of other regions/countries, which means teachers and schools were better prepared in some regions/countries than in others. This is also to be taken into account in the analyses of the teacher answers and focus groups in other WPs.

11.5 Early school leaving and absenteeism before the pandemic

The COVID-19 pandemic and the associated school closures implied that opportunities for contact between teachers and pupils decreased. Although this may have affected all pupils, it is plausible that especially for young people with already increased school disengagement, this may have led to increased absenteeism and early leaving. This, in turn, raises the question concerning the pre-COVID-19 situation in terms of early school leaving and school absenteeism in the countries/regions that we study. This situation is well-documented because decreasing the number of students who leave education and training early (ELET) was a clear objective of the Strategic Framework for European cooperation in education and training (ET2020). Indeed, in 2010 the EU installed an ambitious goal to have less than 10% of early school leavers. With 9.9% this goal was achieved and the benchmark that is set for 2030 is 9%. There are, however, clear differences between the countries/regions that we study.

In Greece the percentage of early school leavers decreased by almost 10 percentage points in the period 2010-2020 (from 13.5% to 3.8%). Pre-COVID-19 the level of early school leavers in Greece was among the lowest in Europe. In Poland the level of early school leavers was already low in 2011 (5.6%) and it remained relatively stable, around 5%, over the 2010-2020 period. In France and Belgium the level of early school leavers followed a very similar trajectory. It was about 12% in 2010 and gradually decreased to about 8% in 2020. This means that at the start of the pandemic the level of ELET in Belgium and France was about 1.5-2 times higher when compared to Poland and Greece respectively.

These general levels of early school leaving conceal some heterogeneity in terms of social-background characteristics. Data from Eurostat based on the European Labour Force Study, for example, indicate that in 2020 the proportion of ELET in the EU was almost 4 percentage points higher for young men (11.8%) than for young women (8.0%). In the four countries that we study in this report, the gender difference in early school leaving (2020) is largest in Belgium (4.3 percentage points) and lowest in Greece (1.3 percentage points).

Early school leaving also varies with the level of urbanisation. In the EU in general, early school leaving is most prevalent in towns/suburbs and rural areas and lower in cities. Applied to our four countries under study we see clear variation on this pattern. Greece and Poland follow the general pattern, but in Belgium, for example, early school leaving is highest in the cities and lowest in rural areas and towns/suburbs. In France early school leaving is highest in towns/suburbs and lowest in rural areas and cities.

If one aims to understand early school leaving, it is not sufficient to study the dropout rates. The road towards early school leaving is a gradual process of school disengagement (Keppens & Spruyt, 2018; Rumberger, 2011). It is known that the more this process of school disengagement progresses, the less easy it becomes to curtail this process. Therefore, it is not sufficient to only focus on early school leaving. Also (unexcused) school absenteeism, which can be considered as an important warning signal, should be studied. In terms of school absenteeism there is much less comparable data. One reason for this is that countries differ in terms of what level of (unexcused) school absences they consider problematic. Data that provide some view on country level differences regarding school absenteeism come from PISA. In 2012, pupils aged 15 were asked how many times they skipped some classes in the last two full weeks of school. Although this reference period is

relatively short, the data provide some sketch of country differences (Keppens & Spruyt, 2018). Interestingly, country differences in class skipping are considerably larger when compared to early school leaving. In Poland where early school leaving was always very low, more than 20% of all 15 years old indicate to have skipped a class at least once in the last two weeks. The percentage resembles that of France. In Belgium, the level of class skipping is considerably lower. Keppens and Spruyt also showed that country level differences in truancy could at least partially be attributed to characteristics related to the ways in which educational systems select and group pupils. Truancy rates are higher in comprehensive (e.g., Poland) and individualist educational systems (e.g., Greece) and lower in strongly tracked systems (e.g., Belgium).

Data for Flanders and France also show significant differences between general/technical secondary education and (partial) vocational education. The level of unexcused school absences is much higher in (partial) vocational education and training (VET) when compared to, for example, general secondary education (school year 2020-2021). There is no reason to assume that other countries under study are an exception on this point. This is also the reason why the OECD attributed a special report to the impact of COVID-19 in VET (OECD, 2021a).

What all these examples illustrate is that there were already clear patterns prior to COVID-19 that indicated that some groups are more at risk than others and that these patterns vary between countries. This furthermore underscores the importance of studying education in its context. These findings and differences should also be taken into account in the next WPs. Did teachers experience gender gaps/differences during (attendance to) digital education? How did teachers from rural areas experience digital education compared to teachers from urban areas? What can we say about the attendance for online classes compared to pre-COVID-19 times? Did truancy rates seem larger to teachers (for some student populations)? Since one of the aims of the KEEP project is to shed light on how teachers managed to keep connected with their students and thus tried to prevent early school leaving, in the selection of teachers for the interviews, attention will be paid to the country differences in ELET and school absenteeism, so as to make sure to have teachers from both (sub)urban areas and rural areas, and some teachers of VET.

11.6 The challenges of distance learning during the pandemic

The lockdowns following the COVID-19 pandemic implied that schools had to switch to remote learning. For many reasons distance learning proved to be challenging and many countries had to do ad hoc investments. Remote learning is not only important to avoid or limit learning losses. Research on early school leaving, school absenteeism and school disengagement, has stressed the importance of school bonding (Keppens & Spruyt, 2019). A precondition for such school bonding is that there is a good contact between school, students and parents. In that context, the COVID-19-pandemic made it very clear that schools are not just places where people learn but spaces where people relate to other people. Indeed, if the COVID-19 pandemic has taught us one lesson it is that learning is not just a transactional phenomenon. It is first and foremost a relational and social phenomenon.

In many countries it has been proved to be a challenge to guarantee that all students have daily and dedicated contact with teachers and school, with students from disadvantaged families being most

vulnerable (OECD, 2021b). Many schools lost contact with some students, and material circumstances played a crucial role in this. Indeed, an important challenge was to ensure the stability of the Internet connection. Although in many countries connection to the Internet was very high to near-universal, these Internet connections were often not sufficiently stable for live streaming (especially when multiple devices were simultaneously used in the same house). Moreover, in many families there was a clear lack of devices. Indeed, although in pre-COVID-19 times one computer or tablet was sufficient to be connected, families with multiple children needed multiple devices during the COVID-19-pandemic.

All countries that we studied have struggled with this. For all regions, the COVID-19 pandemic was a reality check that illustrated that education systems need to have a strong digital learning infrastructure and that such an infrastructure cannot be confined to schools. Even in highly developed countries, simple things like access to the Internet (and distance learning) turned out to be less self-evident than expected. Governments responded to these changes by increasing budgets for making available PCs and related technologies to students and families (such as free Internet).

Providing Internet and laptops, however, is not sufficient to overcome all problems because (1) it takes time to distribute them and (2) some barriers regarding distance learning are more related to people's general living circumstances and skills. Therefore, the OECD advises that if school capacity is limited due to social distancing requirements, countries should prioritise young children and young people with a disadvantaged background for in-school learning (OECD, 2021a). Some countries, especially in the school year 2020-2021, tried indeed to give priority for young children and young people with a disadvantaged background for in-school learning.

Besides obvious problems in families, many schools and teachers were not always well prepared for the sudden switch to online teaching either. In those regions that were in a better starting position, governments were able to respond quickly by providing digital tools and guidelines on digital teaching on already existing platforms. In the other regions, new platforms with tools and guidelines sometimes needed to be created. Although these platforms and tools were certainly used by schools and teachers and were therefore successful, it is not yet clear how many schools and teachers used them and whether there were systematic differences in use.

11.7   The challenges of school absenteeism during the pandemic

As indicated in other sections of this report, scientists and policy makers were concerned that the pandemic would affect vulnerable pupils most. School closures implied that teachers lost direct contact with their pupils. Digital learning opportunities were set up, but depended on the availability of devices and the Internet. If the latter were absent or unreliable, the teacher had little means to contact pupils. These elements raise questions about the evolution of school absenteeism during the COVID-19 pandemic. In the literature there is a great paucity of studies on the impact of COVID-19 on school attendance problems (Havik & Ingul, 2021; Nathwani et al., 2021), mainly as a consequence of the absence of (reliable) data.

Nevertheless, two observations could be made. First, it is clear that in all regions, schools struggled to stay in contact with some of their students and in particular those students living in a more vulnerable situation and with a heightened risk of school dropout. Material deprivation and the lack

of good digital infrastructure at home played a key role here. School closures, especially during the first lockdown in 2020, seem to have strengthened pre-COVID-19 patterns. In all regions, we found evidence of teachers using a variety of channels (including social media) to connect to vulnerable students. These attempts, however, turned out to be largely ad hoc and not structured in a coherent way.

Second, for most of the school absenteeism there is either no data or the data show important inconsistencies due to registration issues. Most regions have an official registration system to monitor the evolution in school absenteeism. The input comes from individual schools which register absences at least on a daily basis. Such systems work well in normal times, but were not prepared for distance learning. Indeed, digital learning raised questions such as "Can students be considered being absent from school when the school itself is closed?" Such questions implied that regions had to develop strategies on how to register school absenteeism for distance learning. In practice, and based on different testimonials in the media, it turned out that in most regions schools strongly varied in the strategy they followed for registration. This means that it is difficult if not almost impossible to have a good sight on the effective impact of COVID-19 on school absenteeism. The governments of the regions that we study seem to recognise this as in these regions (e.g., Poland) where study orientation was contingent on school attendance, the criteria to calculate school attendance were relaxed.

11.8   The challenges of learning losses due to the pandemic

The number of school days that were lost due to school closures varied considerably between the regions that we studied. However, even in those regions where school closures were limited, a meaningful number of school days was lost. Moreover, experiences with distance learning suggested that learning losses might be unevenly distributed over the student population. The first step to develop a successful strategy to curtail these learning losses was to get a good sight on the exact nature and magnitude of these learning losses. The OECD has pleaded in this context for standardised testing. Standardised assessments and final examinations can not only provide a means to keep a close eye on the general learning gaps among pupils. They also represent an excellent means to keep track of the evolution of social inequalities in educational outcomes and may help to identify the pupils who were affected most. Results for the OECD also show that in countries that did not assess learning gaps, about two thirds did not implement remedial measures for pupils (OECD, 2021b).

Regarding standardised testing, the cases that we study here reveal two challenges. First, some countries (e.g., Belgium) did not have standardised tests or final examinations pre-COVID-19 and they did not implement them during the COVID-19 pandemic. Second, some countries had standardised tests or final examinations but adjusted the content so that pupils would not get questions regarding topics that were not covered; some countries cancelled the examinations altogether.

Except for Belgium-Flanders none of the regions under study were included in the most recent systematic reviews on learning losses that have been published in the scientific research so far. Donnelly and Patrinos (2021) identified eight studies; seven of these found evidence of student

learning loss amongst at least some of the participants, while one of the seven also found instances of learning gains in a particular subgroup. The remaining study found increased learning gains in their participants. Additionally, four of the studies observed increases in inequality where certain demographics of students experienced learning losses more significant than others.

Hammerstein et al (2021) found evidence for a negative effect of COVID-19-related school closures on student achievement in OECD countries. The reported effects are comparable in size to findings of research on summer losses. This indicates that a lot of remote learning measures implemented during the first school closures in spring 2020 appeared not to be that effective for student learning, since the effects achieved were similar to those achieved when no teaching was implemented at all during summer vacation. Specifically younger children and children from families with a low SES were negatively affected by COVID-19-related school closures. However, Hammerstein and colleagues could also identify online-learning measures that seemed to be beneficial for student learning. In schools already working with online learning software, positive effects of school closures on student achievement were reported. The positive effects on performance in such online-learning programs may have occurred due to the increased use of the software during school closures and the fact that students from these studies were familiar with working with online-learning programs, hence, did not have to adapt to a new learning environment during COVID-19-related school closures.

It became clear that no matter how much effort schools invested in optimising digital learning, the COVID-19 pandemic had a severe impact on the learning of (some) young people. Policy makers were also worried that these learning losses would be more unevenly distributed over the school population with people who lived in a socio-economic deprived situation to be much more vulnerable (OECD, 2021b). Consequently, even though in many countries learning losses were not measured, several countries felt the need to set up remedial programs that aimed to compensate for these learning losses and the social differentials in it. Often these remedial programs took the form of 'summer schools', that are classes that were taught during the summer holiday and in which teaching was combined with sport and cultural activities.

11.9   Concluding words

To conclude, the present Situational Review provides an overview of the different starting points and challenges of each educational system under study when entering the COVID-19 pandemic. It features how the regions under study have coped with such challenges as distance learning, school absenteeism, learning losses, and remedial programs to compensate for learning losses. All the challenges discussed in this Review are intended to be developed further and be of use for the following WP's of the KEEP project. For example (non-exhaustive list):

- Remote teaching: Were the preconditions for remote teaching available with teachers and students (e.g., good working Internet and devices on the one hand, tools and guidelines regarding remote teaching on the other hand)? If not, what were the differences and inequalities, and what effect did those have on remote teaching?

- School/student bonding: How was this maintained? If students didn't feel a mental connection with their teachers/school, they probably didn't learn much either during the pandemic. It's the first step. If students' mental state was deteriorating, how did this affect remote teaching?
- Learning losses: how did the teachers assess this in their classes? Were the innovative practices effective for all students or did they find differences, if so according to what?
- …

12 Appendix: Schematic overview of education in the 5 regions

The figures below were borrowed from the Eurydice country reports (see https://eacea.ec.europa.eu/national-policies/eurydice/national-description_en).

Belgium-Flanders 2020/2021

Belgium – Flemish Community – 2020/21
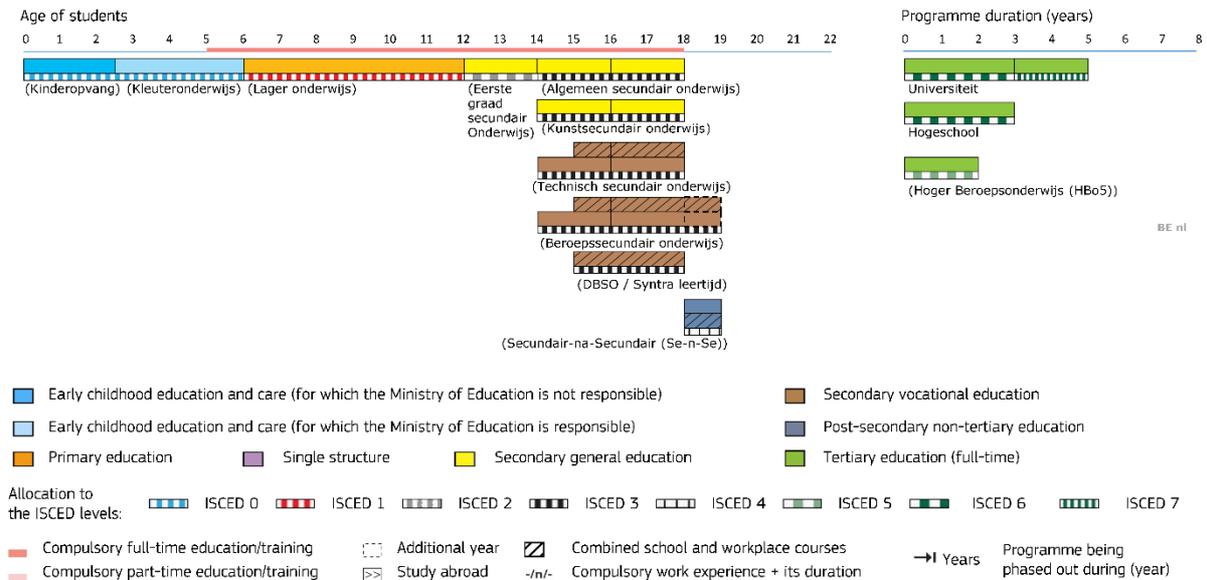
Belgium-Wallonia

Belgium – French Community – 2020/21
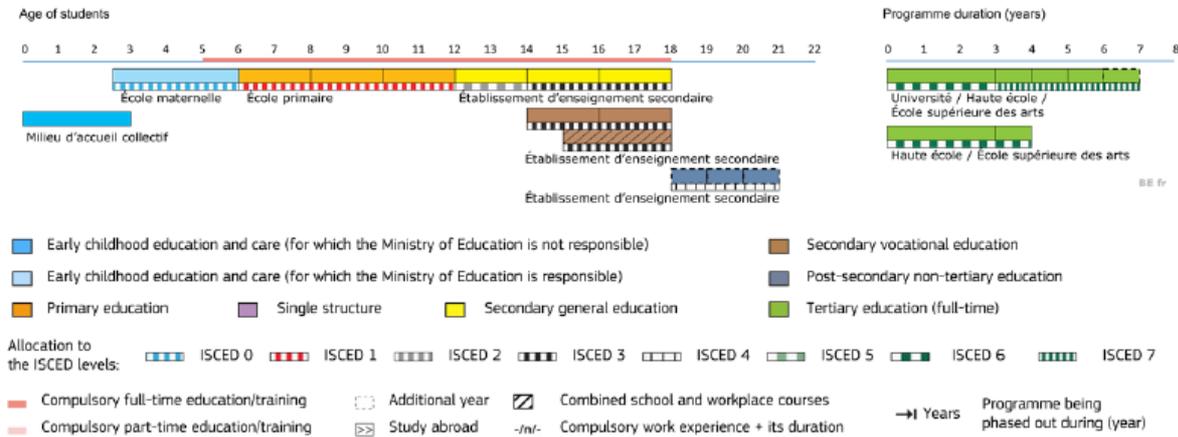
France 2020/2021

France – 2020/21

Age of students

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

cycle 1 | cycle 2 | cycle 3 | cycle 4

École maternelle | École élémentaire | Collège | Lycée général et technologique

Crèche

Lycée professionnel

Centre de formation d'apprentis

(1) CPGE: Classes préparatoires aux Grandes Écoles

Programme duration (years)

0 1 2 3 4 5 6 7 8

Universités

CPGE (1) Grandes Écoles

Sections de Techniciens Supérieurs (STS)

Instituts Universitaires de Technologie (IUT)

FR

Note: ISCED 4 education covers less than 2 % of the total number of students (all levels). Since September 2020, training has become compulsory for students aged between 16 and 18.
Young people will be able to fulfil this compulsory training by several means: schooling, apprenticeship, training courses, civic service, and support system or social and professional integration measures.

- 🟦 Early childhood education and care (for which the Ministry of Education is not responsible)
- ⬜ Early childhood education and care (for which the Ministry of Education is responsible)
- 🟧 Primary education
- 🟪 Single structure
- 🟨 Secondary general education
- 🟫 Secondary vocational education
- ⬛ Post-secondary non-tertiary education
- 🟩 Tertiary education (full-time)

Allocation to the ISCED levels: ISCED 0 ISCED 1 ISCED 2 ISCED 3 ISCED 4 ISCED 5 ISCED 6 ISCED 7

- Compulsory full-time education/training
- Compulsory part-time education/training
- Additional year
- Study abroad
- ▨ Combined school and workplace courses
- -/n/- Compulsory work experience + its duration
- →| Years
- Programme being phased out during (year)

Greece 2020/2021

Greece – 2020/21

Age of students

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Nipiagogeio | Dimotiko scholeio | Gymnasio | Geniko lykeio

Paidikos stathmos →| 2020/21 (1)

Vrefonipiakos stathmos →| 2020/21 (1)

Vrefikos stathmos

Esperino gymnasio

Esperino geniko lykeio

Epangelmatiko lykeio (EPAL)

Esperino epangelmatiko lykeio

Institouto epangelmatikis katartisis (IEK)

Programme duration (years)

0 1 2 3 4 5 6 7 8

Anotato Ekpaideftiko Idryma (AEI)

EL

(1) Programme being phased out between 4 and 5 years old as from 2020/21.

Notes: Law 4521/2018 established the two-year compulsory *nipiagogeio* (pre-primary school). The implementation of the measure spans a 3-year period from 2018 to 2021. School year 2020/21 (third and last year of its implementation) foresees the compulsory attendance of all pre-schoolers in all municipalities of the country. Meanwhile, for one last year, *Vrefonipiakoi stathmoi* and *Paidikoi stathmoi* will continue to accommodate children up to 5 years old.

- 🟦 Early childhood education and care (for which the Ministry of Education is not responsible)
- ⬜ Early childhood education and care (for which the Ministry of Education is responsible)
- 🟧 Primary education
- 🟪 Single structure
- 🟨 Secondary general education
- 🟫 Secondary vocational education
- ⬛ Post-secondary non-tertiary education
- 🟩 Tertiary education (full-time)

Allocation to the ISCED levels: ISCED 0 ISCED 1 ISCED 2 ISCED 3 ISCED 4 ISCED 5 ISCED 6 ISCED 7

- Compulsory full-time education/training
- Compulsory part-time education/training
- Additional year
- Study abroad
- ▨ Combined school and workplace courses
- -/n/- Compulsory work experience + its duration
- →| Years
- Programme being phased out during (year)

Poland – 2020/21

Age of students

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Żłobek /
Klub dziecięcy

Przedszkole /
Oddział przedszkolny
w szkole podstawowej /
Punkt przedszkolny /
Zespół wychowania
przedszkolnego

Szkoła podstawowa

→| 2022

Liceum ogólnokształcące

→| 2023

Technikum

→| 2022

Branżowa szkoła I stopnia

→| 2024

Branżowa szkoła II stopnia

Szkoły policealne

Programme duration (years)

0 1 2 3 4 5 6 7 8

Uczelnia

Kolegium Pracowników
Służb Społecznych (KPSS)

Main changes

1. New types of upper secondary schools (4-year *liceum ogólnokształcące*, 5-year *technikum*) have been operational since 2019/20 school year for graduates of 8-year single structure education (*szkoła podstawowa*). 'Old type' programmes in 3-year *liceum ogólnokształcące* and 4-year technikum (based on former core curricula for general education, and new curricula for technical education) for graduates of phased out *gymnasia* still operate in *liceum ogólnokształcące* up to the year 2021/22 and in *technikum* – up to the year 2022/23.
2. From September 2020, a new 2-year *branżowa szkoła II stopnia* (upper secondary school) is open to the graduates of *branżowa szkoła I stopnia*. It will offer two types of programmes: starting in 2020/21 a programme for graduates of phased out *gymnasia* who graduated from *branżowa szkoła I stopnia*, and starting in 2022/23 – for graduates of 8-year single structure education (*szkoła podstawowa*) who graduated from *branżowa szkoła I stopnia*.

PL

Note: Major changes at different education levels gradually take place between 1 September 2017 and the school year 2022/23 (Act of 14 December 2016 'Law on School Education' and an Act 'Legislation introducing the Act – Law on School Education').

■ Early childhood education and care (for which the Ministry of Education is not responsible)	■ Secondary vocational education
■ Early childhood education and care (for which the Ministry of Education is responsible)	■ Post-secondary non-tertiary education
■ Primary education ■ Single structure ■ Secondary general education	■ Tertiary education (full-time)

Allocation to
the ISCED levels: ▦ ISCED 0   ▦ ISCED 1   ▦ ISCED 2   ▦ ISCED 3   ▦ ISCED 4   ▦ ISCED 5   ▦ ISCED 6   ▦ ISCED 7

▬ Compulsory full-time education/training   ⬚ Additional year   ▨ Combined school and workplace courses
▬ Compulsory part-time education/training   ▷▷ Study abroad   -/n/- Compulsory work experience + its duration   →| Years   Programme being phased out during (year)

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