Intellectual Output #1

Literature review

Analysis of the results of research dealing with European vocational education and training experiences during the COVID19 pandemic, with specific reference to the, so called, vulnerable group.

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General information about COVID19 and VACCINE

Origins and general information about COVID19

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus The first known infections from SARS-CoV-2 were discovered in Wuhan, China. The original source of viral transmission to humans remains unclear, as does whether the virus became pathogenic before or after the spillover event.

Severe acute respiratory syndrome coronavirus 2, SARS· CoV· 2 (Gorbalenya et al) is the virus that causes COVID-19 (coronavirus disease 2019), the respiratory illness responsible for the COVID-19 pandemic. Also colloquially known simply as the coronavirus, it was previously referred to by its provisional name, 2019 novel coronavirus, 2019-nCoV and has also been called human coronavirus 2019.The World Health Organization declared the outbreak a Public Health Emergency of International Concern on 30 January 2020, and a pandemic on 11 March 2020.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness. (World Health Organization)

Project VACCINE

COVID19 pandemic effects have revealed new ongoing needs for new VET hybrid practices. During the sudden change on spring 2020 VET organisations started organize teaching and training online with some background, but not carefully planned model suitable for all pedagogical needs. Students with learning difficulties and problems with inclusion suffered the most.

The real danger is that these students will drop out from their studies due to several different reasons: socio-economic, behavioural and learning style-related challenges. Reasons vary also between different European countries and cultures and their pedagogical arrangements. This is one main reason why "VACCINE" is carried out transnationally. Finland represents "Nordic approach", Germany and Austria the so called "Dual Model approach" and Italy "Southern European method and tradition". Each approach is bringing some elements to the project outcomes.

VACCINE project's main aim is to find solutions and tools for inclusion of students with special educational needs and tools for their teachers to use modern technology and pedagogical principles. The practice is called "Hybrid" and hybrid pedagogy simply means teaching arrangements where one part of the training takes place in learning facilities and at the same time another part is done online. This project aims at having significant impact on its final target groups, students with special needs together with primary target group being teachers and trainers working with the aforementioned students. The impact is created in creating and distributing concrete toolboxes for each target group. These toolboxes contain clearly defined pedagogical and didactic work methods for teachers and tools for students to take part in hybrid learning according to their personal readiness.

Prior to designing these tools, a study is made to find out which are the different levels of readiness (of teachers and students to adopt and use hybrid way of learning and teaching) and from that study, to create a readiness scale. Different types learners and teachers are then placed into the readiness scale. After this, a set of tools and pedagogical approaches are designed to concretely answer to the needs of persons in each section of the readiness scale. The concept of readiness can be related to different aspects depending on motivation, capacity and awareness. Also in this case it will be interesting to discover if and which are the differences between the above mentioned geographic (and cultural) approaches.The project also carries out a questionnaire and study of teacher/trainers dealing with challenges in hybrid training especially with special needs students. (Project VACCINE Eramus application)

The impact is then created by efficiently distributing the final outcomes to all relevant national and European level VET actors (this needs to be more specific). Via "Learning, Teaching and Training" sessions the results are piloted to the project partner beneficiaries and stakeholders. Every partner conducts a national pilot where a) experts (focus group) of teaching and training activities evaluate the results of literature review and chooses the best models for piloting in some schools and B) the readiness scale is tested among teachers and trainers. Then the national level of experiences will be compared in partner meetings. In "Multiplying Events" the first set of larger target groups are approached (needs to mention specific networks etc.). In this level the outcomes are introduced to special education teachers using the national networks and institutions responsible for training of such teachers.

Outcomes are also presented in suitable transnational events, I.e. EfVET-conference. The outcomes of the project (hybrid-model with its variations and readiness scale) can be used as an European level tools for adopting an further developing the new way of teaching and training the vulnerable students in VET.

Purpose of this paper is to be an analysis of the results of research dealing with European vocational education and training experiences during the COVID19 pandemic, with specific reference to the, so called, vulnerable group. The conclusion is focused on the pedagogical solutions and needs concerning the vulnerable, SNE students. (Project VACCINE Eramus application)

Vocational education systems

Shaped by socioeconomic contexts and traditions, VET systems across Europe are diverse while often sharing the same goals and facing similar challenges. The Covid-19 pandemic forced all countries to adjust their education and training processes to a new reality caused by an unprecedented disruption. While continuing with their VET policy agenda and addressing long-lasting challenges (e.g. early leaving from education and training or modernising qualifications), countries have worked to make education and training truly digital, ensuring access to computers and the internet to all students, providing training to teachers and trainers, developing flexible approaches to assessment. The concepts of quality, inclusiveness and flexibility are enjoying a renewed focus. (Spotlight on VET 2020 compilation of Vocational education and training systems in Europe. European Centre for the Development of Vocational Training)

For the purpose of this paper, four educational systems are presented; Germany, Austria, Italy and Finland. Of these four, Germany and Austria represent the so called "dual system". The formulations of the models of educational systems have been unified by Mikko Turunen for the purposes of Vaccine collaboration and to get a picture of the similarities and differences in our systems.
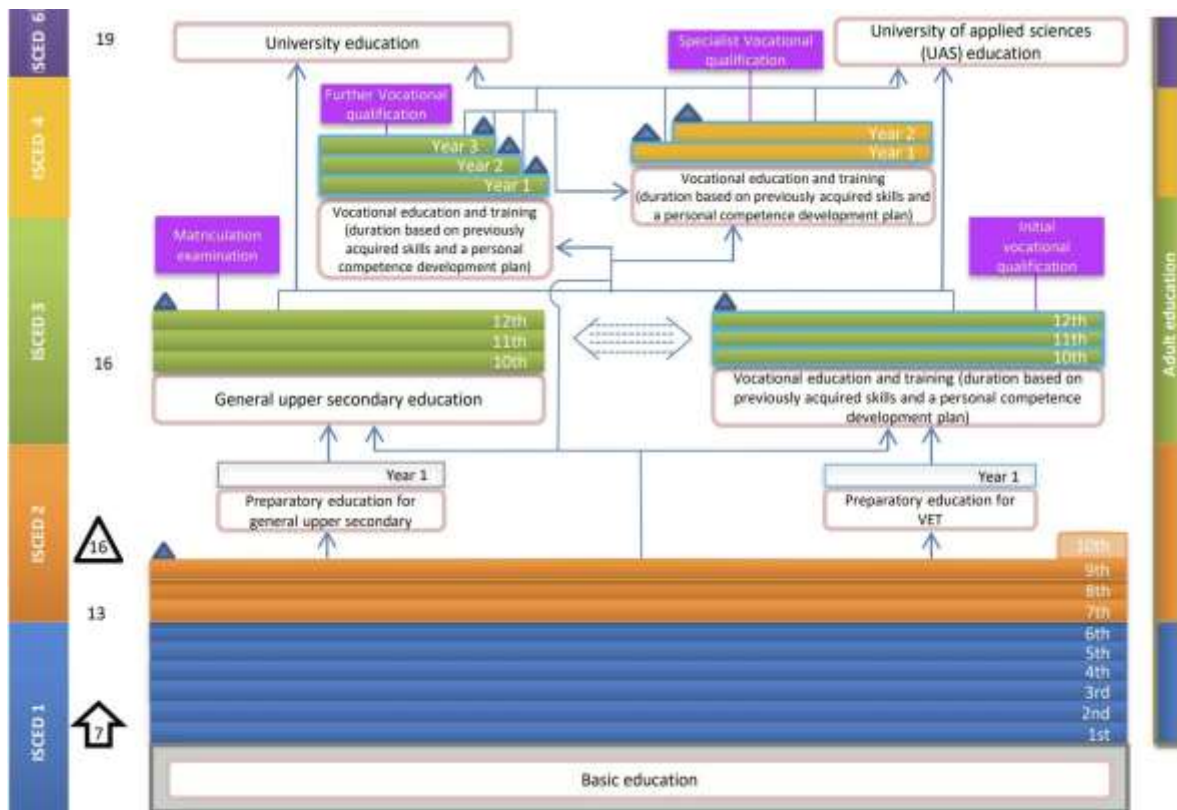
Finland

Figura 1 OECD (2020), "Finland: Overview of the education system", OECD Education GPS

Finnish Vocational Education and Training reform 2018

This reform updated the entire vocational education and training (VET) in 2018. The reform was ratinalised with the vision of the future work life that education should answer and have intensive dialogue with and, at the same time use less money for implementing the education. The main emphasis in the reform was to organise the teaching and learning in close collaboration with working life and work places and individualising studies basing on the former competences and competence developing. The reform re-organised the funding system, guidance, governing processes, degree system and institutional organisation of VET.The general principles in the reform wer competence-based curriculum and customer-oriented organising teaching and learning. This means that all students should be offered the possibility to design different individual ways to develop their competences and get the support and guidance in close collaboration with the working life. The curriculum is formulating the competence based qualifications to each degree and it can be studied either in vocational institutions with strong work-based learning included or, as apprenticeship training in a work place. appropriate path to finishing an entire qualification or a supplementary skill set. The primary importance is on what the student learns and is able to do.(Ministry of Education and Culture, Vocational education and training in Finland; https://minedu.fi/en/vocational-education-and-training)

Personal study plan and special needs students

A personal competence development plan is drawn up for each student. The plan is drawn up by a teacher or a guidance counsellor together with the student and, when applicable, representative of working life. The plan also includes information on the necessary supportive measures. The support received by a student may involve special teaching and studying arrangements due to learning difficulties, injury or illness, or studies that support study abilities.

The special needs support in VET was also explicated more precisely in the new legislation after the reform 2018.

Section 64

Special needs support

Students are entitled to special needs support if they, owing to learning difficulties, a disability, an illness or other reason, require long-term or regular special assistance for learning and studying in order to acquire the vocational competence requirements or key competence requirements specified in the national qualification requirements or education and training requirements. Special needs support is defined as systematic pedagogical assistance and special arrangements for learning and studying that are based on the student's needs and abilities.

The goal of providing special needs support is for the student to acquire the vocational
competence and skills required in the relevant national qualification requirements or education and training requirements. For a student receiving special needs support, competence assessment in accordance with the initial vocational qualification requirements may be adjusted by conducting a customised competence assessment for the student. However, the competence assessment may be adjusted only insofar as it is necessary in view of the student's individual objectives and capabilities.

Another goal of special needs support is to promote the student's overall rehabilitation together with a rehabilitation service provider.

Section 65

Intensive special needs support

A VET provider with an obligation to provide intensive special needs support as referred to in section 27, subsection 2 is obliged to provide vocational education and training for students with severe learning difficulties or serious disabilities or illnesses due to which they require a customised, broad-based and diverse form of the special needs support referred to in section 64.

Section 66

Exception to vocational competence requirements or key competence requirements

It is possible to make exceptions to the vocational competence requirements or key competence requirements specified in the initial vocational qualification requirements so that a student is not required to demonstrate a particular competence specified in the national qualification requirements, if:

(1) the vocational competence requirements or key competence requirements specified in the national qualification requirements are unreasonable for the student in certain respects because of current circumstances or previously acquired competence; or

(2) making such an exception is justified owing to the student's disability or state of health.

The purpose of making an exception is to enable the student to complete the qualification even if he or she is unable to acquire some of the vocational competence requirements or key competence requirements specified in the national qualification requirements, due to any of the causes referred to in subsection 1. Exceptions may be made to vocational competence requirements and key competence requirements only insofar as it is necessary due to the causes referred to in subsection 1.
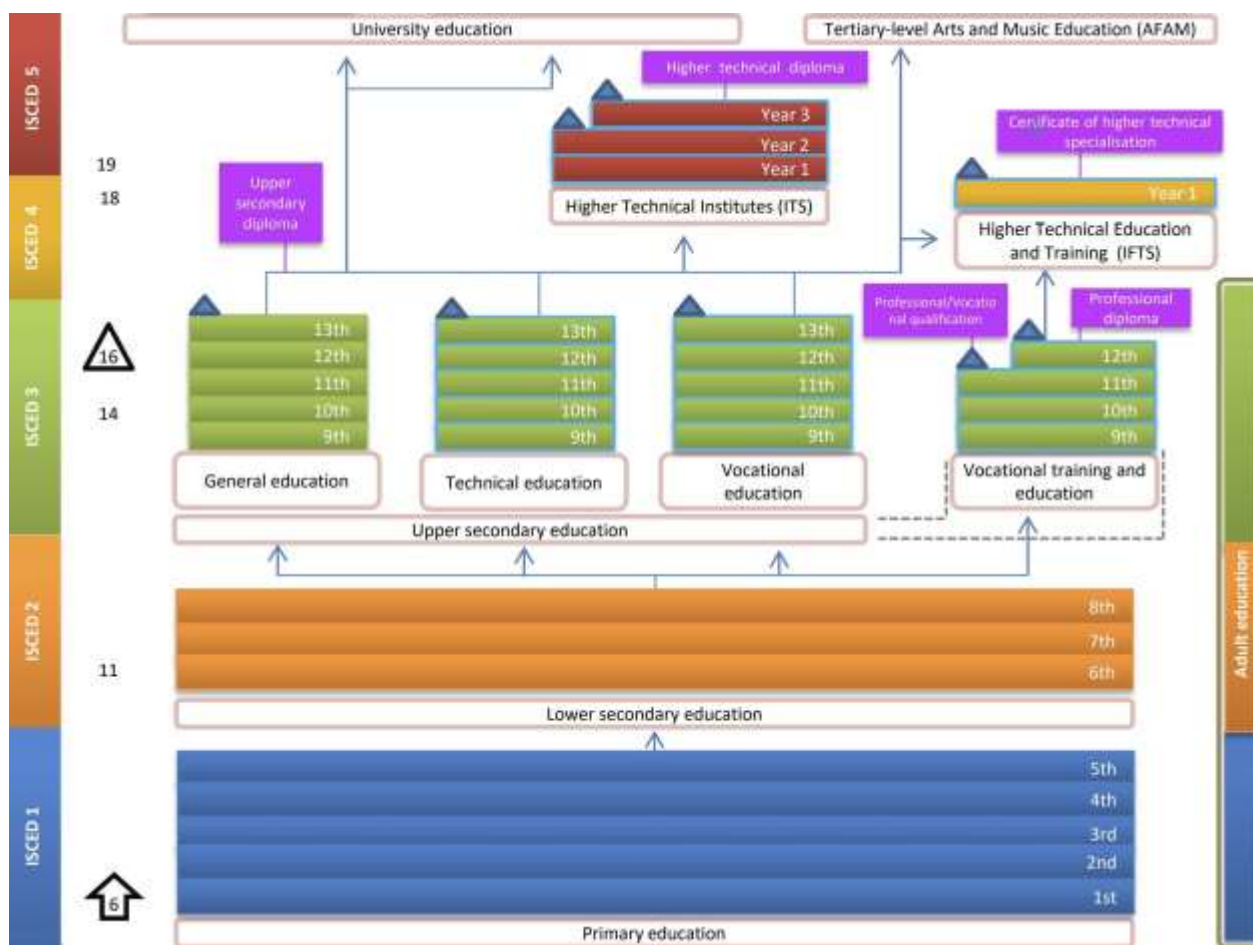
Italy

Figura 2 OECD (2012-13), "Italy: Overview of the education system", OECD Education GPS

In Italy, the term vocational education and training tends to be 'reserved' for specific programmes primarily under the remit of the regions and autonomous provinces (such as IeFP). From a European perspective the term 'education and training' comprises all types and levels of general and education and vocational education and training (VET). Irrespective of the provider or governance scheme, VET can take place at secondary, post-secondary or tertiary level in formal education and training or non-formal settings including active labour market measures. VET addresses young people and adults and can be school-based, company-based or combine school- and company-based learning (apprenticeships). Therefore, the term VET also covers the technical and vocational schools.

Italian VET is characterised by multiple institutional players at national and regional level. Article 117 of the Constitution provides for ownership either by the State, the regions or mechanisms for cooperation between the different institutions, relative to the type of training:
– the State establishes general education standards;
– regions have exclusive legislative power over VET;
– education falls within the concurrent legislation, except for the autonomy of education institutions and vocational training.

Ministries of education and labour and the regions define, with formal agreements, matters of common interest with different responsibility levels. Apprenticeship is available at all levels and programmes and is defined as an open-ended employment contract. Type 1 apprenticeship is offered in all programmes at upper secondary level and the IFTS. Type 3 apprenticeship (higher training/education apprenticeship) is offered in ITS programmes and all tertiary education leading to university degrees, ITS diplomas, and doctoral degrees. Type 2 apprenticeship does
not correspond to any education level but leads to occupational qualifications recognised by the relevant national sectoral collective agreements.
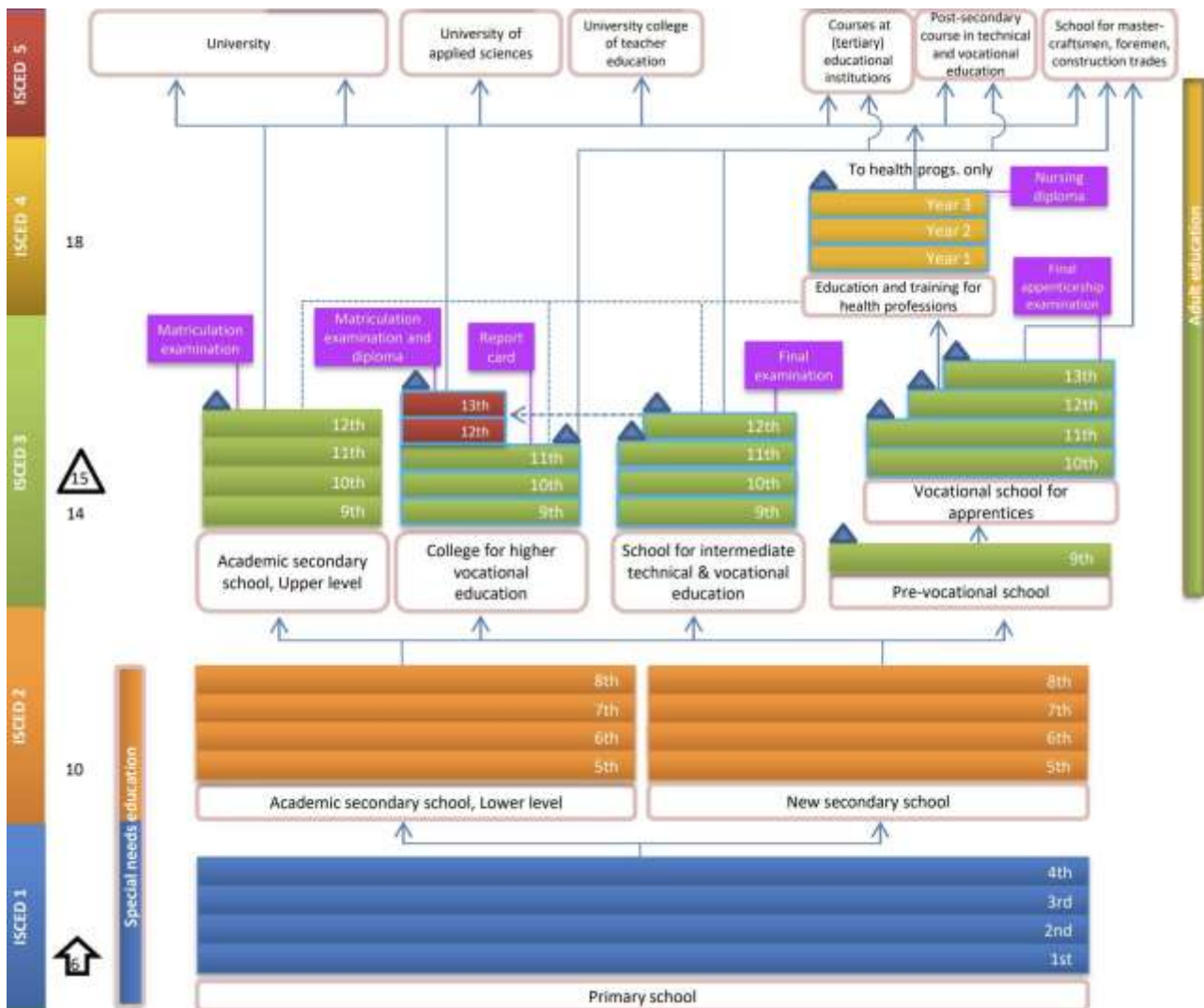
Austria

Figura 3 OECD (2012-13), "Austria: Overview of the education system", OECD Education GPS

Austrian vocational education and training (VET) ranks high, as demonstrated by its differentiated offer and high attractiveness: around 70% of each age cohort follow a VET path at the end of compulsory education. The final year (year 9) of compulsory education and the first of upper secondary education coincide. Most school-based VET comes under the remit of the education ministry. Governance of apprenticeship is shared by the ministries of economy (company-based track) and education (schoolbased track), the social partners and the Länder. There is also a variety of VET programmes at tertiary level and for adults.

The broad range of available VET programmes is not only reflected in the various types of training and qualification levels but also in the fields of study, which include business, engineering, tourism, fashion and agriculture. Programmes can be adapted to regional economic contexts and skill needs and allow learners to develop their strengths and talents in the best possible way.

Work-based learning is central to VET, particularly in apprenticeships where learners spend 80% of their training time in a company. School-based VET is also practice-oriented, including learning in workshops, labs, training restaurants and practice firms, complemented by mandatory work placements in companies. Project and diploma assignments as part of the final exam of the five-year VET programme (EQF 5) are often set by companies or carried out with their collaboration. Much attention is paid to the acquisition of key competences (including teamwork, digital and entrepreneurial skills). At least one foreign language is mandatory – in some study fields (such as tourism) up to three – and is also used as a working language at several schools. Competence-orientation is a key principle in VET.

The number of apprentices (within the dual VET-track) being trained is driven by company demand. The training is based on a training contract between the company and the apprentice and learners need to follow a respective school-based programme. Early leaving rates from education and training have been comparatively low (7.8% in 2019) and there has been a training obligation since 2017: all young

people must participate in mainstream school-based programmes, apprenticeships or other recognised training until the age of 18. Contrary to fears, the coronavirus pandemic has, so far, not had any serious impact on the supply of apprenticeship places.

However, consideration is being given to how alternative company training can be expanded to bridge possible gaps in apprenticeship training places.

Germany
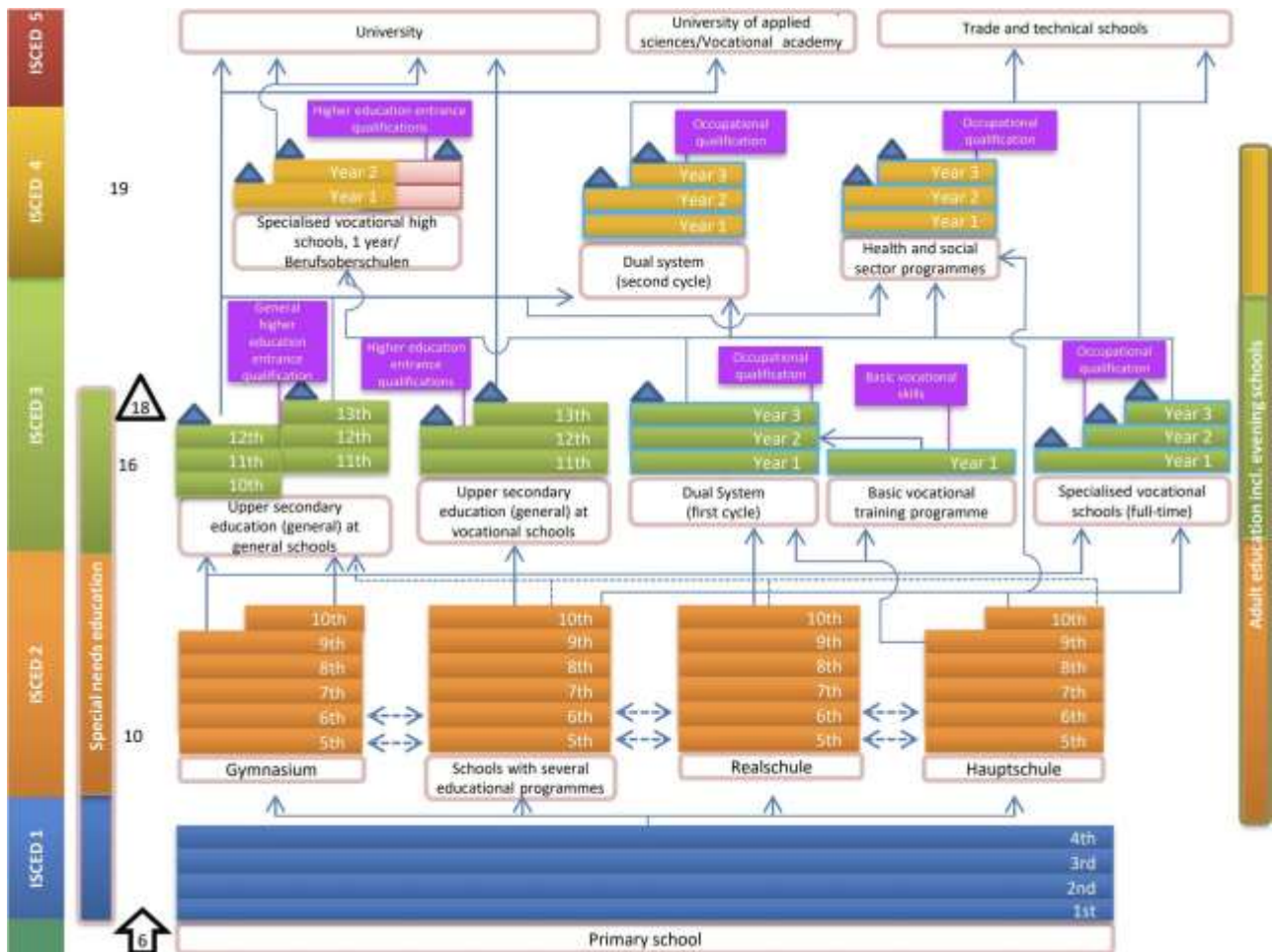
The dual system

The dual system is firmly established in the German education system. The main characteristic of the dual system is cooperation between mainly small and medium sized companies, on the one hand, and publicly funded vocational schools, on the other. This cooperation is regulated by law. Trainees in the dual system typically spend part of each week at a vocational school and the other part at a company, or they may spend longer periods at each place before alternating. Dual training usually lasts two to three-and-a-half years.(Bundesministerium für Bildung und Forschung, 2020)

Organizations and system: how the pandemic has affected the organization of educational institutions

European scenario

The COVID-19 pandemic has presented unique challenges to all types and levels of learning, including VET. An entire generation of VET learners has seen their education and training being interrupted in an unprecedented way due to lockdown and social distancing measures implemented across Europe and around the globe. VET institutions have been called to organise quickly digital education and training, while at the same time they had to mobilise teachers and trainers to maintain services to learners. All of this aimed to ensure "learning and training anywhere, anytime", an idea central to the concept of lifelong learning, but often quite distant from traditional VET practices that are strongly rooted on the physical presence of the learner in a specific VET establishment.
Cedefop, (2020). Digital gap during COVID-19 for VET learners at risk in Europe. Synthesis report on seven countries based on preliminary information provided by Cedefop's Network of Ambassadors tackling early leaving from VET.

During the pandemic, the already weak links of the school organization necessitated an extensive work of coordination to avoid drifting towards a possible organizational anarchy. Headmasters who have been able to develop, in their schools, the middle management could count on the precious contribution of collaborators, class coordinators, department coordinators, persons in charge of the digital development plan, safety managers and many other teachers committed to weave the fabric of a professional community.
Aspects such as the Headmaster's teaching leadership ability, the presence of a distributed leadership, the teachers' collaborative attitude, the propensity to adapt, the sense of community, showed all their relevance in determining the type of response that schools were able to provide to the emergency. These schools were able to intercept the emerging issues and to adapt to change more quickly and effectively than other schools with a very high reputation, but blocked by spontaneous behaviors, by teachers' inertia, even very experienced and competent ones, unable though to question themselves and to learn rapidly new ways and methods to manage the class, reinterpreting their role with remote teaching.
What lessons can we learn for the future? We believe the relevant aspect is not simply whether before the Covid-19 emergency individual teachers had already gained remote teaching experiences or whether they were suitably equipped with advanced digital skills. Nonetheless, the issue of digital innovation cannot be considered separately from the innovation of contents, teaching methodologies and class management dynamics. Transferring teaching from classrooms to multimedia platforms requires new skills, which are not strictly only digital ones, but ones that more deeply rely on the ability to use technologies in a proficient way to innovate teaching, customizing teaching-learning processes, promoting the interaction among students, supporting their independent and cooperative work.
Resilient organizations are the result of the investment their headmasters were able to make over the years, systematically but most of all systemically, building professional communities which did not stop learning during a terrible health emergency; that could leverage on teachers who constantly try new things through the research-action of different and better ways of doing things; they assess what works and what deserves a review in their professional practice; they reflect on increasingly innovative and effective approaches and methodologies to foster their students' learning motivation, and they take on the individual and collective responsibility for their student's results; finally they support students to face and overcome together the difficulties they encounter.
In these schools, the relationships involving faculty, students and families, are based on a sound relationship of trust and mutual respect, on a strong sense of belonging and identity and teachers have the courage of openly exchanging views to innovate their professional practices in view of continuous improvement.
Bologna Business school - University of Bologna - Angelo Paletta (2020) Covid-19 and organizational change: the case of educational institutions

Italy COVID19 situation

Since March 2020, the closure of schools in response to the COVID-19 pandemic has meant that more than 90% of children and young people enrolled in school around the world had to leave classrooms (Unicef, 2021). Italy was the first country in Europe to implement a nationwide lockdown. Schools and Universities began to close at the end of February 2020, starting in northern Italy (Lombardia, Emilia-Romagna, Liguria, Piemonte, Veneto and Friuli-Venezia Giulia). Starting from 10 March 2020, the government then extended the blocking measures to all regions of the country. Children, teenagers and their families lived in almost total isolation for about two months until the 3rd of May 2020 and all the schools remained closed until September (start of the new scholar year). Excluding already scheduled school breaks, Italian students, due to the lockdown measures adopted to deal with COVID-19, lost 65 days of regular school (Unesco, 2020), compared to an average of 27 days lost among high-income countries in all over the world (Unesco, Unicef, World Bank, 2020).
To cope with this situation, various interventions have been undertaken aimed at reconciling the protection of the health of students and school and university staff with the safeguarding of the right to study, at the same time guaranteeing them from any harmful effects deriving from the suspension of teaching activities in the presence. Subsequently, it was allowed, in particular, while respecting the rules of physical distancing, to carry out in the presence of the final state exams of the second cycle relating to the same as 2019/2020. In the following, various provisions have been introduced to ensure the safe resumption of teaching activities in presence in the educational services and in the schools for the s. 2020/2021.

The entire school year 2020/2021 was characterized by a succession of indications and regulations, at times contradictory, often sudden, which caused great difficulty and uncertainty for the educational institutions that were forced to chase the various measures, for families and for the students themselves.

As just an example the provisions for the month of January are reported.

"In particular, the gradual resumption of school activity in the presence of secondary schools in the period from 7th to 16th January 2021 was regulated by legislation, providing that: - on 7th, 8th and 9th January 2021, throughout the national territory, the teaching activity of secondary schools was to be carried out remotely for 100% of the student population;

- in the days from 11th to 16th January 2021, in the so-called red areas the teaching activity of secondary schools continued to take place at a distance for 100% of the student population;

- in the days from 11th to 16th January 2021, in the so-called yellow and orange areas the upper secondary schools had to guarantee didactic activity in the presence of at least 50% of the students. The remaining part of the didactic activity was carried out through the use of distance learning.

From 18th January 2021, upper secondary schools had to adopt flexible forms in the didactic organization so that, at least 50% and up to a maximum of 75% of the students, didactic activity in the presence was guaranteed. The remaining part of the activity had to be carried out remotely. The possibility of carrying out activities in presence was guaranteed if it was necessary to use laboratories or to guarantee the effective school inclusion of pupils with disabilities or with special educational needs.

In order to mitigate the impact of school closures, countries around the world have rapidly invested in distance learning and teaching solutions delivered across multiple media, including online platforms, television and radio programs, as well as printed educational materials to be used at at home. (Dreesen, Akseer, Brossard, Dewan, Giraldo, Kamei, Mizunoya, Ortiz Correa, 2020). In Italy, the Ministry of Education has allocated 85 million euros for distance learning activities; of these, 70 million were destined to provide digital devices and connectivity to children and young people from disadvantaged socio-economic backgrounds, 10 million to schools for the acquisition of digital educational platforms and 5 million to teacher training. Taking into account the 2019 data of internet connectivity in Italian families, ISTAT estimates that about 3 million children and young people between 6 and 17 years of age may have had difficulties in distance learning activities during the lockdown due to lack of connectivity or adequate family IT tools (Istat, 2020). ISTAT estimates indicate that about one third of Italian students were unable to participate in distance learning activities due to a lack of internet connection; in the same sample of children and young people who have access to the internet, 6% of the interviewees stated that they could not participate in the Distance Learning due to a poor internet connection. Similarly, a survey conducted by Save the Children (2021) found that 28% of students aged 14 to 18 in Italy knows at least one classmate who has stopped attending school (remotely or in person) after lockdown. The same survey shows that the main reason for not attending remote lessons (28% of respondents, N = 160) is linked to connectivity problems. Over time, this could lead to educational disparities. Schools with higher percentages of low-income students also found much higher levels of learning loss, widening the existing educational gaps.

Italian VET scenario

In the monitoring reports of previous years, it has been repeatedly noted that the number of young people who access the VET system as a first choice is progressively increasing compared to those who arrive to it as a second chance after previous school failures.

The data on the gender distribution confirm that VET is mainly attended by the male component; in fact, males are 61.2% of the members, while girls are 38.8%.

The inclusive nature of the IeFP is also evidenced by the presence of the foreign component within the activated paths. In the three-year period, there were 21,535 students of foreign origin, that is 13.9% of the national total of students.

(Crispolti E. (edited by), XVIII Monitoring Report of the Vocational Education and Training system and of the Dual Pathways in the IeFP a.f. 2018-19, INAPP Technical Report, May 2021, pp. 29-31)

In Italy, VET is a regional competence, even if there is a general framework that is shared through the State-Regions Conference which is held periodically. The regional administrations have intervened with diversified solutions according to the training systems and the characteristics of the individual territories. The variety of measures (notes, circulars, DGR - Regional Council Resolution, ordinances) has left margins of organization in line with the characteristics of the training systems and, at the same time, has guaranteed the maximum flexibility of the individual Regions on all management aspects .

However, the interventions related to the introduction and regulation of Distance Learning/Didactic (DAD) are still very heterogeneous to date. Various administrations have issued numerous notes and orders both to follow the evolution of the emergency and to regulate, with subsequent measures, different aspects of the DAD. The Regions do not seem to have followed common guidelines, although similarities can be found between the interventions published. Some have left ample room for maneuver directly to the Vocational Training Bodies to organize the DAD, limiting themselves to authorizing it, while others are regulating in detail both the communications to be sent to the regional IT systems and the operating methods for carrying out the distance lessons. What emerges from the interventions is the request for specifications on the recognition of training, above all in cases where an asynchronous FAD is envisaged and where the activities carried out must be financed by public bodies on the base of proven activities.

It immediately emerged that most of the Regions did not have their own IT platforms to be used for the DAD, thus leaving to the VET bodies the possibility to choose the online training systems to use according to their needs. Another clarification about the DAD: the Conference of Regions and Autonomous Provinces in two successive periods (July 2019 and March 2020) intervened in the field of DAD dictating specific rules for all cases of compulsory training valid for the entire duration of the situation of emergency. It should be borne in mind that the VET has its own characteristics and distinct from those of the school. Therefore, if some general observations mentioned above can also be considered valid for the VET world, others must be subject to specific analysis. Just think, by way of example only, of the peculiarity of the curriculum which has a substantial part of laboratory and internship not attributable to training action in DAD mode and the peculiarity of the funding that is subject to different rules if it is regional, national or European.
(G. MALIZIA - M. TONINI, School organization and the CFP to the test of the coronavirus pandemic. An introduction, Franco Angeli, Milan 2020)

After the first Prime Ministerial Decree of 4th March 2020, the extension of the suspension of the activities in presence continued until ... 31st July 2020. The Guidelines confirmed the possibility of carrying out in presence the number of hours of practical training, while for the ones addressed to theoretical training, the percentage of DAD was temporarily extended to 100%, to be achieved up to 30% with synchronous / asynchronous mode and for the remaining 70%, exclusively with synchronous mode.
The law decree n. 34 of 19th May 2020 (so-called relaunch decree) established the validity of the training year 2019/2020, even if the minimum number of hours provided for by the current legislation had not been completed. In line with national provisions, a second Agreement was signed at the Conference of the Regions on May 21, which shared the Guidelines for the completion of the final examinations of VET courses, also in remote mode, valid for the training year. 2019/2020.
First of all, it was envisaged the possibility of concluding the VET courses, conducting exams also in remote mode. As for the type of remote exam tests, it was established that they could consist of an individual oral interview and/or the preparation and presentation of a thesis, or artifact, or project work, or performance test, or project, using technological tools which guaranteed the transparency and traceability of the procedure. Admissible possibility, the latter, provided it is preceded by an appropriate verification of the IT infrastructure requirements, or the possession of adequate IT equipment by the students and the conditions of connection to the network.
(Crispolti, 2021, pp. 9-11)

For the European Commission, supporting the digital transition means first of all improving the digital skills of VET, increasing digital readiness, the responsiveness of training institutions. The enhancement of the digital preparation of educational institutions should take place, in time of Covid-19, by promoting new learning environments, tools and pedagogies, with transversal and specific contents for the curricula.
The Region Conference on the 8th October.2020 approved the document "New coronavirus SARS-CoV-2. Guidelines for the reopening of economic, productive and recreational activities ", which content was applicable to VET training courses. These were prevention and containment measures (behavioral norms, social distancing, and contact tracing) of a general nature for the protection of the health of users and workers. They were in continuity with the indications that highlighted the need to invest in education, training and digital skills. The operational indications could possibly be integrated with solutions of superior efficacy, identifying the appropriate measures on the territory. They were applied to training activities in different contexts (classroom, laboratories and companies), including theoretical and/or practical final exams, to verification, tutoring and orientation activities, in groups or individuals. The provision also concerned dual-modality courses, both at training institutions and at professional subsidiarity institutes.
In the difficult situation caused by the pandemic, VET found itself having to respond to an emergency state, proving resilient and substantially able to continue its task. This happened, despite the fact that the training year was safeguarded very late compared to the school (Law Decree no. 34 of May 19, 2020, art. 91). Furthermore, the management of technological training channels was heterogeneous throughout the country: some regions have regulated in detail the communications to be sent to their IT systems and the operating methods of remote lessons, with the request for specific rules about the recognition of the activities linked to their financeability.
Other administrations have left room for the action of VET centers. For example, since most of the Regions did not have their own IT platforms for Distance Training, it were the Training Centers that chose and used them as needed. However, even if with the obvious difficulties posed by the new circumstances, the training work went on, adopting, time by time. forms of remote interactivity modulated to the rhythm of the learners. The design of the activities has renewed the student-centered teaching approach, which has always been in the DNA of VET. An attempt was also made to overcome the difficulties of transmitting, in addition to the theoretical knowledge, some contents and practical skills (the real core of the problem) by replacing to some extent the forbidden practice of laboratories with project work. The younger average age of VET trainers also indirectly contributed to the rapid response of the system, closer to widespread digital competence and with a significantly lower average age than that of secondary school teachers.
Little, however, could be done with those dual paths for apprentices who interrupted attendance in companies in sectors blocked by the emergency (catering, tourism, wellness, etc.). On the other hand, the innovative methods of FAD (Distance Training) and DAD (Distance Didactic), already experimented in the past thanks to the didactic flexibility of the VET training model, have found, together with the DDI (Integrated Digital Didactic), wide application in the part less linked to the practice of the educational paths. They certainly entailed greater difficulty than face-to-face training, but also an opportunity to give children access to a more active understanding of the contents, leaving relative flexibility on how and when to learn.
In fact, the digital strategy, applied on a large scale, has opened new horizons for the design of curriculas, even with the alternating use of synchronous and asynchronous parts, where the latter have been allowed. The learning moments were calibrated in learning units taking into account the times of use and the sustainable workload of the students. The selection of new teachers and a more structured training

of digital facilitators now appears to be the main challenge to be considered if we want to make this teaching method adequate and stable for the future as well. In fact, even when it will be possible to provide all the training hours in the presence, it will become important to consider the opportunity to propose some distance learning modules, in the interest of effective learning by users.

Distance training should be used above all for theoretical content, including preparation for practical exercises, while in presence learning for technical-practical skills inside the training institution, alternating school work and/or apprenticeship will remain crucial. The Law of 3rd November 2020 also went in this direction, which extended distance learning to all in the second cycle, again allowing attendance in the presence of pupils who used the laboratories. It is this basic difficulty that immediately prompted the immediate adoption of distance learning methods for the theoretical part of the curriculum, postponing the solution of the problems of the practical part to subsequent measures. (Zagardo, 2020, pp. 15-17)

In the first phase of the quarantine, have been advantaged those Training Centers that had already included in their activities consistent e-learning practices, not in an isolated or voluntary form, but in a systematic and structured way of technological platforms and of the set of didactic supports developed for hoc. For many, the compulsory use of the FAD (Distance Learning) has meant acquiring the necessary skills for an emergency teaching in a very short time; in this scenario, the communicative approach centered on resuming contact with students and on the frontal lesson prevailed. This phase ended early, when the sense of emergency and the desire to reconnect with each other were lessened; the approach to the end of the training year has more urgently placed the theme of the variation of teaching methodologies in relation to the training goals of the courses and that of the evaluation and certification of "reliable" skills, that is, based on real and adequate tests.

In the meantime, there is an urgent need to address next year. Even when an effective vaccine will be available, the training framework must take on a decidedly renewed character compared to the previous era. At the center of this approach there must necessarily be consideration of the protection of public health in the face of the season of health emergencies which cannot be considered closed with the expected eradication of the current virus. What has been defined as the "era of the pandemic" represents the most likely scenario for the next decades, which will force us to redefine the model of society and individual behavior, groups, communities and institutions based on the principle of "reasonable risk" which brings with it a change of perspective with respect to the postmodern model:

• from "self-care" to responsibility towards others;

• from the primacy of the individual to the primacy of the stable social bond;

• from the emphasis on mobility to the emphasis on community;

• from gatherings to selective distances and approaches. It is good that we do not imagine at the end of this long quarantine to return to the previous time, but put our attention to a real awakening of society and therefore of the school, made more aware and alive by the past experience.

Faced with a "neo-community" model, the characteristics of the new training system seem to be the following:

• a clearly educational option accompanied by a curriculum suitable for the time of awakening;

• a profile of the system that allows to guarantee the training offer in any eventuality (illness of pupils and teachers, natural events ...);

• authentically personalized training for small groups managed - at least up to the second cycle of studies - by trainers of a cultural axis rather than of a single discipline;

• an organization that is not only flexible but also fluid, capable of providing quality services tackling the different scenarios that may arise;

• a system effectively based on autonomy, not only on individual institutions, but centered on community networks, in order to make possible a common effort for raising the quality of training as well as the rationalization of strategic resources such as technologies, staff training, the production of quality teaching material that can be used according to a blended approach.

There are three strategic elements of this system:

- going beyond the limited perspective of "good practices", it is necessary to think of an e-learning support service available to the entire system, which collects, updates and makes available platforms technologies validated by experience and quality material usable in various contexts (videolessons, tutorials, teaching modules and reality tasks, assessment tests and expert tests) referring to the relevant core of knowledge present in the various study paths;

- it is necessary to think of an effectively customized skills certification device, with explicit reference to the real evidence of the attested skills, integrated with the placement platforms;

- Universities and high schools need to be involved to train managerial facilitators of "sustainable" training systems in times of health vulnerability, as well as tutor plus figures who play the role of fiduciary support for students for a substantial period of their formative path. It is necessary that the Training Institutions propose to the State-Regions Conference a unitary renewal plan which, equipped with the necessary resources, allows to manage this transition towards a blended training system for groups and not only for classes, with virtual communities, flexible organization and customized, service structures and smart apprenticeship. (Nicoli, 2020, pp. 70-73)

A further fact of the months of confinement is the necessary opening of various fronts for dialogue, also underlined by the Guidelines. This applies above all to pupils and their families. Despite efforts, screens off, connections in fits and starts, the school has entered the house, and the family has entered the school on the direct line of the needs dictated by remote communication. This is an important starting point for building greater co-responsibility now.

With respect to the need to share rules and responsibilities that allow stay at school and in the company - and the possible resistance by some overprotective families that some participants reported - this is a strength on which to act. In fact, the involvement of families is of strategic importance, eg. to reassure about the protocols adopted, even in the company, or to emphasize the importance of not letting people leave the house with flu symptoms. It is also possible to actively involve students and teachers in the cleaning of individual

workstations, providing adequate protocols and inserting moments of training and education in a form of sociality suitable during the pandemic phase. Even with the enterprises, dialogue is essential, both to make it possible to acquire professional skills with a greater number of hours in the company that some CFPs intend to propose, and to verify effective compliance with safety protocols.

Some participants stressed the importance of calibrating school-work alternation to ensure the acquisition of all skills. Others also stressed the need to differentiate between the professional skills acquired at school and skills acquired in the company, complementary but not replaceable. Finally, a structural and contextual dialogue is necessary with all the entities involved in the territory (regions, provinces, municipalities, transport companies, private associations, ...) in view of sharing spaces and adapting the services offered. In more general terms, this also requires clarity on the notion of responsibility.

In this regard, and especially in a situation of great uncertainty, it is not possible to limit oneself to conceiving responsibility in criminal or paternalistic terms. This does not at all mean denying the specificity of the particular responsibilities deriving from the roles (of managers, political actors, teachers) nor the need for legal and public imputability. Rather, it means placing these particular responsibilities against the backdrop of a wider, contextual and relationally understood responsibility. Responsibility and dialogue with all the actors - pupils, families, teachers, collaborators, companies, local authorities - are at the heart of an educational pact to be redesigned. In this, the pandemic only urgently re-launches the challenge to build an open and non-self-referential school that the knowledge society has been facing us for some time. (Faitini, 2021)

Finland COVID19 situation

On 29 January 2020, the first case in Finland was confirmed, when a Chinese tourist visiting Ivalo from Wuhan tested positive for the virus. On 16 March 2020, the Finnish Government, in cooperation with the President of Finland, declared a state of emergency in the country. A list of measures intended to slow down the spreading of the virus and to protect at-risk groups were implemented in accordance with the Emergency Powers Act (1552/2011), the Communicable Diseases Act (1227/2016), and other legislation. The measures include the closing of schools (excluding early education) and most government-run public facilities, limiting public gatherings, and closing the country's borders. The restrictions were scheduled to last until 13 April, but in late March they were extended to 13 May.

On 20 March, the government announced a €15 billion support package to aid businesses and individuals suffering from the economic slowdown resulting from the virus. This was a €10 billion increase to a previous support package, announced 16 March. Among the presented changes was a 2.6% decrease in employee pension payments until the end of 2020. On 25 March, the government decided to restrict movement between the Uusimaa region and the rest of Finland.[69][70] However, people were allowed to move between regions due to job requirement or for compelling personal reasons. The proposal also did not affect cargo or freight transportation.[71] On 15 April, movement restrictions between Uusimaa and the rest of the country were removed.

On 20 September, The app for tracing coronavirus was released on 31 August and health authorities expected it to take one month to reach one million users, but that number was reached within 24 hours. Finland received its first allotment of Pfizer and BioNTech's COVID-19 vaccine on 28 December.Vaccinations began the following day with front-line ICU healthcare workers of the Helsinki University Hospital (HUS) district becoming the first to receive the inoculation.

Finland VET scenario

In March 2020, Finland took emergency measures to prevent the spread of COVID-19. TVET institutions, along with other educational institutions, were closed. Face-to-face learning was disrupted and TVET institutions transitioned into distance learning.

It is worth noticing that the Finnish National Agency for Education has emphasised the importance of digital skills since 2007, when development project grants became available. Professional development in the area of digital skills has been widely accessible since 2010, at the same time TVET providers were encouraged to develop digitalisation strategies, including development goals for cloud-based services, device policy and staff training. This has facilitated the development of distance and online learning solutions in recent years. Consequently, prior to COVID-19, distance learning has been a common practice but not a significant part of Finnish TVET. On 18 March 2020, education providers quickly transitioned into distance learning following the policy recommendations provided by the Finnish government:

During the crisis, both the Ministry of Education and Culture and The Finnish National Agency for Education supported education providers with information and an advisory service: a COVID-19 website was set up with instructions for different levels of education as well as an email address for education providers for contact in case they need further advice. The National Agency for Education also provided support by curating and sharing material on how to plan and implement

distance learning, including information on national development networks, communities and open educational resources. Teachers were encouraged to share content through the newly published online library with open educational resources. In addition, some TVET providers equipped students with computers and mobile learning devices when deemed necessary.

In mid-May, Finland adopted a hybrid strategy to manage the COVID-19 crisis and began to lift some of the restrictions that we made earlier in the spring. On 14 May 2020, TVET providers were allowed to gradually return to face-to-face learning. However, the government strongly recommended distance learning until the end of the school year. All TVET providers could independently decide whether to open campuses for face-to face teaching, while adhering to the instructions laid down by the Regional State Administrative Agencies.

In August 2020, TVET institutions opened their campuses again. In principle, teaching and work-based learning were to be arranged in person, but education providers were closely following the situation and preparing for a possible shift to distance learning if the COVID-19 situation required it.

New Covid-19 cases per day / 100 000 habitants

MARCH

16.3.2020 — State of emergency declared by the Government of Finland

18.3.2020 — Schools and educational institutions are closed down. Remote work is recommended for workplaces.

APRIL

The Finnish government announces TVET providers being able to start face-to-face teaching gradually from 14 May 2020. The Government recommends continuing remote teaching until the end of the school year.

MAY

4.5.2020
11.5.2020 — The Ministry of Education and Culture and Finnish Institute for Health and Welfare issue instructions for educational institutions for preventing infection as provisions restricting face-to-face teaching are gradually dismantled.
14.5.2020 — Schools are allowed to gradually return to face-to-face teaching.

JUNE

JULY

1.7.2020 — TVET legislation is temporarily amended until 31 July 2021 to make demonstration of skills and competence during COVID-19 more flexible and ensure students' progress and graduation.

4.8.2020 — Ministry of Education and Culture issues updated recommendation for organizing education and training safely within education providers' premises during COVID-19.

AUGUST

11.8.2020 — Opening TVET campuses and resuming face-to-face teaching

4 Omnia Education Partnerships (calculations based on COVID-19 update from the Finnish Insitute

The COVID-19 crisis forced TVET providers to close their premises and shift to distance learning in an extremely tight schedule. However, overall TVET providers were successful in implementing this transition. They have reported that staff and students adopted the increased use of digital and online learning solutions very quickly. Teachers and staff have also supported each other during the crisis through sharing advice and materials on online learning.6

In general, the transition to distance learning was easier for some TVET providers than others epending on how much they used digital solutions prior to COVID-19. In Finland, TVET is arranged in diverse learning environments, and the education provider decides independently to which extent it wishes to provide face-to-face or distance learning6.

To help with the transition, TVET providers have proved to take the following actions:
• Setting up additional remote teaching and IT support services for teachers and staff
• Providing training for staff and students in using digital communication and learning tools
(such as Teams)
• Efficient and constant communication about the crisis and new learning arrangements
with staff and students
In mid-May, TVET providers were allowed to begin returning to face-to-face learning given that they complied with the safety instructions provided by the government officials. As the government's recommendation was to continue distance learning until the end of the school year, TVET providers followed the recommendation and maintained distance learning for the most part. However, some additional face-to-face teaching took place as of May. Throughout the period, it has been possible to use school premises for face-to-face teaching in small groups (e.g. with learners who need special support) and for arranging skills demonstrations for raduating students if necessary.

TVET providers have estimated that the majority of students have coped well with distance learning6. Most students have been satisfied with the support and guidance during COVID-19 and think that teaching has been arranged adequately. However, based on the students' responses (Figure 4) some key challenges seem to have been the lack of feedback and
adequate support received. The fact that 18% of the students found that teaching was not arranged adequately, 8% did not have sufficient digital devices for learning, and 13% found that their skills were not adequate to progress in their studies, indicate that there is some room for improvement.

Distance learning has been more challenging for those students who need special support, and since autumn 2020, TVET providers and teachers are calling for additional support services for especially students with special needs and limited language skills.
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TVET students' feedback (n=6114-6248)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I have received enough information about the special arrangements concerning my studies	42	37	8	9	4
I have received sufficient support and guidance	37	34	11	11	6
I am pleased with how teaching has been arranged	33	36	12	12	6
I have received sufficient feedback	31	32	16	13	7
I have the necessary devices to study (e.g. laptop, mobile phone)	68	19	5	5	3
I have sufficient skills for studying during special arrangements caused by COVID-19	46	31	10	9	4
I have been able to progress my studies despite COVID-19	48	28	9	9	7

Proportion of respondents (%)

■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree

5 Finnish TVET students' feedback on contact, support and teaching during COVID-19 (KARVI 2020)

Teachers have been able to adapt to the situation and perform extremely well considering the circumstances. However, according to teaching and guiding staff, supporting the community spirit, the wellbeing of the students as well as interactions with them have been shown to be especially difficult during COVID-19 (Figure 7).

The Finnish Government decided, on 30th of March, that restrictions on contact teaching at different levels of education would be valid until 13th of May. However, this deadline was prolonged due to the pandemic situation and distance learning continues to be the national teaching methodology. As it is foreseeable that the distance-learning format in VET (vocational education and training) to be continued after the summer, it became evident the necessity to reinforce the support for students with special needs. This work is being prepared by the Ministry of Education and Culture.

Currently, it is crucial to support the students who have fewer opportunities. Upper secondary students are better equipped to study independently than pupils in primary school. However, some secondary school students also lack certain learning skills, such as self-management skills or motivation to study. It has been particularly difficult for students belonging to different cultures and having foreign mother-tongue – or with migrant background – and for students who need special support to adapt to distance learning and independent studies.

In this context, particular attention has been paid to those students who are not able to study independently nor to use different kinds of digital environments or tools. In cases of exception, within the VET, it has been possible to arrange a limited number of teaching and guidance in the school premises during the COVID19 crisis, which has been conducted the way that is safe for both teachers and students, as there may be students belonging to a vulnerable group.

The VET Act establishes when organising teaching and guidance, particular attention was dedicated to students with special needs. This implies that the adequate support actions must be ensured also in distance teaching. According to the Finnish government policy, education providers have to ensure that student with difficult disabilities can continue their accommodation in student houses and teaching, care, dining and other services.

In Finland, dedicated guidance and support was arranged so that special education teachers, guidance counsellors and welfare officers were available virtually. Students with immigrant background had also the opportunity to get their schoolwork by post if they do not have

access to digital tools or they are not used to work with computers as a part of their studies. Some education providers even have separate service points in their premises, where students that need support or tools for studies have been able pay a visit.

In the future, extra effort will be required to bridge the skills and learning gaps that the emergency conditions created. This means additional investment in teaching, in guidance and in other support measures and the Finnish government is currently preparing working measures.

Eurydice Finland. (01 July 2020). Finland: Support for VET Students with special needs during the pandemic. https://eacea.ec.europa.eu/national-policies/eurydice/content/finland-support-vet-students-special-needs-during-pandemic_en

As a great challenge was found the unsuitability for distance learning of certain fields, where the development of vocational skills and competence requires special teaching and learning environments in the facilities of the educational institution. The fact that workplaces used for on-the-job learning and competence demonstrations closed down created many challenges to making progress in studies.

Finnish National Agency for Education. (2020). Distance education in Finland during the COVID-19 crisis. Initial observations. distance-education-in-finland-during-covid19_initial-observations.pdf

It is important to support the most vulnerable students in these emergency conditions. Special arrangements have been made to provide guidance and support so that special needs teachers, student and guidance counsellors, and social workers can be contacted remotely. Students from migrant background have also been sent tasks on paper by mail if they do not have computers with remote connections or are not accustomed to using a computer or other digital tools in their studies. Some education providers have organised small-scale service points in their premises, where students in need of support or students in need of study equipment have been able to drop by.

The need for supporting students will continue even after the emergency conditions are over. Over the next school year, extra effort will be needed to bridge the skills and learning gaps that are being created under these emergency conditions. This means additional investment in education, guidance and other support measures. This work is being prepared by the Ministry of Education and Culture.

Ministry of Education and Culture. The Impact of Coronavirus on Education and Culture. https://minedu.fi/en/the-impact-of-coronavirus-on-education-and-culture

Austrian COVID19 scenario

During the first lockdown in Austria all educational institutions switched to distance learning until further notice. Online lessons where teachers actively explained learning material were offered to a large extent but work assignments also had to be completed during the periods when students were left to their own devices. At the beginning of May 2020 the students who were taking their Higher Education Entrance Examination were called back to the schools to take their final exams. In mid-May 2020 school operations started again in the Primary Schools, Academic Secondary Schools – Lower Cycle, New Secondary Schools, Schools for children with special needs. At the end of May 2020 all other classes and grades of the Vocational Schools, Academic Secondary Schools – Upper Cycle and Colleges for Higher Vocational Education followed. In the second lockdown in November 2020 the regulations were very similar but many students were in school once a week for the practical subjects. Numerous Universities and Universities of Applied Sciences in Austria still only offer distance learning to their students (Bundesministerium für Bildung 2020).

Austrian VET scenario

The Covid-19 Pandemic seriously affected the employment of staff. They vary from ordered leave to home office and short-time work to dismissal. Training has not been spared either. Several firms have apparently found ways to continue employing trainees in the usual framework and to pursue the training largely unaltered in terms of content (Ebbinghaus 2021, 24).
In 2020 a significant decrease in apprenticeship places could be detected than in the previous year. Numerous young people are at risk of being left without an apprenticeship. However, the problem at hand is not new: Annually thousands of young people do not find appropriate apprenticeship places since there are not enough training places on offer (Burkard 2020, 1).

Moreover, the Corona pandemic is not only a severe challenge for the employment but also for dual vocational training with its versatile economic consequences. Due to contact restrictions during the first Corona wave in 2020 numerous vocational schools or most of their classes had to close. The trainees mainly resumed to go to their firms if it was possible to ensure that the distance rules were hold there. The use of home offices was also exercised to continue in-company training, however infrequently.

Overall, the outcome of the company survey shows that in spite of the extensive restrictions in the companies, the training could be pursued (Biebeler and Schreiber 2020, 40).
As time passed, vocational schools were opened again, however sometimes just for final-year students. Hence, enterprises were confronted with vague circumstances as to when vocational school classes would be hold again or whether learning materials would be made available to their trainees (Biebeler and Schreiber 2020, 20).

When the vocational schools had to close during the pandemic, it quickly became obvious which vocational schools had already developed digital teaching concepts where studying platforms were available for accessing assignments and where necessary adjustments to the infrastructure had already occurred (Friedrich 2020, 10).

Distance teaching and learning: the point of view of teachers and students (testimonials)

European Scenario

In a profession exercised predominantly in its traditional format, where personal interactivity and proximity are essential, social distancing certainly poses new roles and challenges for VET teachers and trainers. The online learning environments require them to demonstrate high quality digital delivery skills and confidence in using web conferencing solutions. They also need to be vigilant for increased cyberbullying and protect their students from disconnecting from the "real world" paying attention to their time spent online. VET trainers also need to engage with employers and social partners to share their material online or to produce new digital learning tools.

What challenges are VET teachers and trainers facing?

- Absence of access to equipment and internet connection required to offer distance learning

- Lack of digital skills and competences to make efficient use of the platforms

- Poor experience in creating digital teaching content

- Lack of experience on e-learning and other distance learning effective pedagogies in VET, especially for teaching practical components

- Concerns over privacy issues, copyright and data protection

Source: *Cedefop*.

What activities are carried out to support VET teachers and trainers?

- Online training modules on digital skills and e-learning pedagogies

- Equipping VET schools with the necessary digital devices

- Caring for VET teachers and trainers' wellbeing.

Source: *Cedefop*.

During the pandemic, digital delivery, which allows offering professional learning opportunities online for teachers and trainers, has become the norm. Although this approach offers flexibility in terms of time and place, and during the health crisis it has been the only possibility, it is still a novelty with unknown effects. In the current circumstances, online modules for equipping VET teachers and trainers with digital skills are necessary. Some countries are training teachers, trainers, coaches and mentors to develop teaching and training material; to acquire knowledge on effective e-learning methodologies; and to carry out virtual evaluation. Some platforms offer demonstrations and online training to users. Information and guidance about organising distance learning is made available for teachers, trainers, learners, enterprises and parents in many EU countries including how to support learners at risk.

Cedefop, (2020). Digital gap during COVID-19 for VET learners at risk in Europe. Synthesis report on seven countries based on preliminary information provided by Cedefop's Network of Ambassadors tackling early leaving from VET.
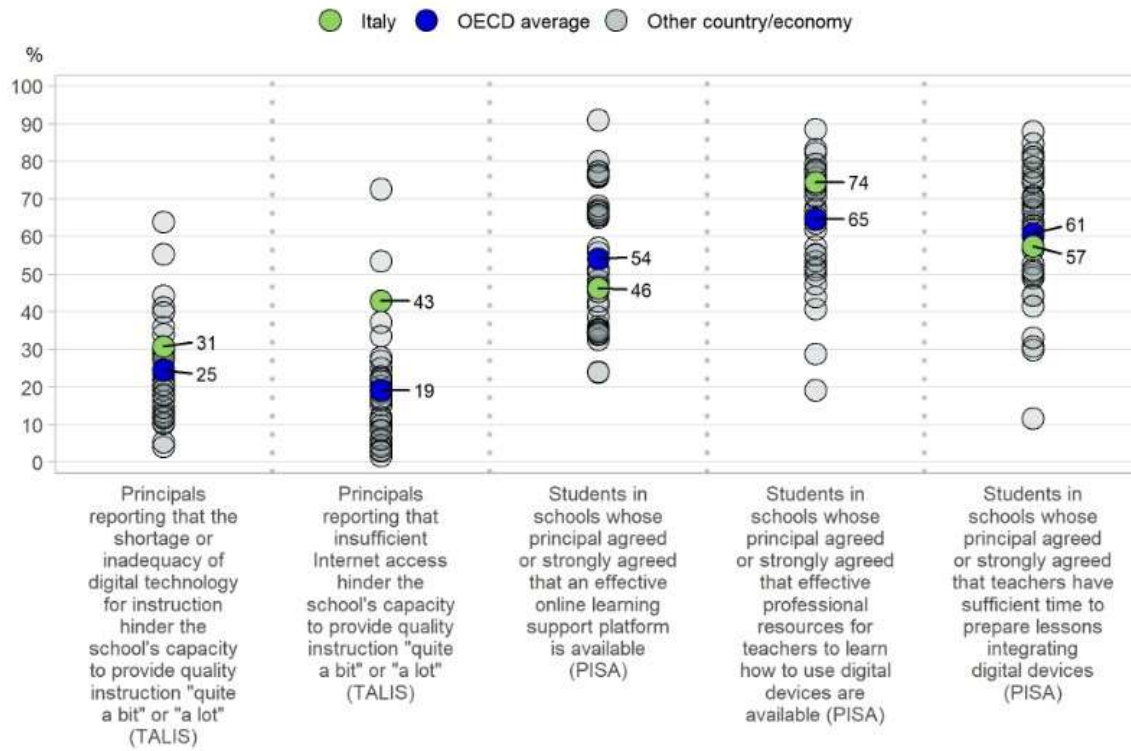
Figure 1. Teachers' preparedness for ICT-based teaching prior to the crisis
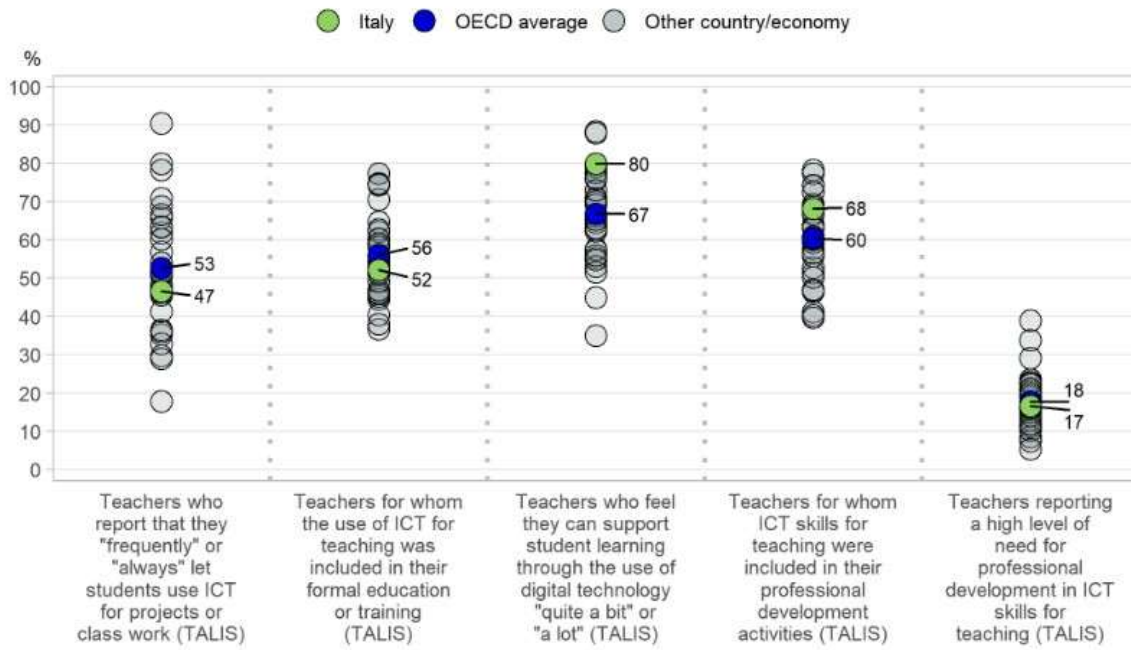
Note: Only countries and economies with available data are shown. The OECD average refers to the average of OECD countries participating in TALIS 2018.
Source: OECD, TALIS 2018 Database.

Figure 2. School and student preparedness for ICT-based learning prior to the crisis

○ Italy ● OECD average ○ Other country/economy

Principals reporting that the shortage or inadequacy of digital technology for instruction hinder the school's capacity to provide quality instruction "quite a bit" or "a lot" (TALIS) — Italy 31, OECD average 25

Principals reporting that insufficient Internet access hinder the school's capacity to provide quality instruction "quite a bit" or "a lot" (TALIS) — 43, 19

Students in schools whose principal agreed or strongly agreed that an effective online learning support platform is available (PISA) — 54, 46

Students in schools whose principal agreed or strongly agreed that effective professional resources for teachers to learn how to use digital devices are available (PISA) — 74, 65

Students in schools whose principal agreed or strongly agreed that teachers have sufficient time to prepare lessons integrating digital devices (PISA) — 61, 57

Note: Only countries and economies with available data are shown. The OECD average refers to the average of OECD countries participating in TALIS 2018 and/or PISA 2018.
Source: OECD, TALIS 2018 Database and PISA 2018 Database.

In short, what emerged from the interviews/questionnaires to which trainers and directors of various Training Centers responded:

Guidelines		What emerged..	Some examples
Community educational pact and educational pact of conscious co-responsibility about the world.	Strengthening the school-family alliance	A fact of recent months is the overcoming of the self-referentiality of the school, above all towards families. The school entered the house, and the family entered the school directly for the needs dictated by the DAD and communication during the confinement phase. This constitutes an important starting point for building greater co-responsibility now, to which is added the centrality of the alliance with the students. With respect to the need to share rules and responsibilities in view of the return to school and the company - and to the possible resistance from some overprotective families that someone reported in the questionnaire - this is a strong point to act on.	• more direct and constant communication (e.g. WhatsApp groups with parents as contact persons) • remote meetings with families to explain the safety protocols adopted at school / in companies where children are engaged in alternation
	Involvement of the various public and private actors, in a logic of maximum adherence to the principle of subsidiarity and educational co-responsibility	The questionnaire revealed the need for greater dialogue with the corporate world (to make it possible to acquire professional skills in the face of a greater number of hours in the company, but also to verify compliance with safety protocols). The importance of calibrating and measuring the alternation was emphasized to ensure the acquisition of all skills. Some also stressed the need to differentiate between the professional skills acquired at school and skills acquired in the company, complementary but not replaceable.	
	Involvement of local authorities	A structural and contextual dialogue is necessary with all the entities involved in the territory (regions, provinces, municipalities, transport companies, private associations, ...) in view of sharing spaces and adapting services. This also implies that clarity is made about sharing responsibility.	
Enhancement of the forms of flexibility deriving from school autonomy	Reconfiguration of the class into multiple learning groups	Some good practices that emerged concern the division of the class into several learning groups in the laboratories or the separation between transmissive moments and reworking / laboratory moments, both in the professional and cultural context. The DAD can help in particular to recover resources by merging classes in the transmissive moments (ie for the more frontal lessons), and then using these resources to divide the class group into subgroups in other reworking / laboratory moments.	• in the kitchen laboratory: a part of the classroom is a laboratory, a part researches the regional recipe to be prepared with the ingredients available in the pantry; • division of the class into two groups engaged in writing and text editing (requires large spaces / islands of desks, and in any case a teaching approach inspired by autonomy) • psychological / pedagogical help desk for relational support and discussion with tutors in a small group, even at a distance
	Modular articulation of groups of pupils coming from the same or different classes or from different course years	The articulation by modules is an experience positively experienced by some, which allows you to implement teaching by levels and skills. Overcoming the class group and the teacher-class association clearly poses some bureaucratic problems. One can initially think of some small interdisciplinary and interclass modules that pose no problems; to allow then to proceed with the modular articulation, the dialogue with the bodies (region / province) and the preparation of adequate tools (including first of all a register organized by course year and not by class) were then essential steps. The importance of collaboration between teachers and joint planning by departments / areas was emphasized, essential for setting up a modular and interdisciplinary teaching method and for reducing the work of the teachers themselves.	• modules with a choice of packaging, creative graphics or photography, open to students of all classes, including those with BES (2 hours per week, with simultan timetable, throughout the year)
	School attendance in different shifts	A useful strategy is in general the flexibility of working hours, which many are thinking about, especially for the professionalizing part. Someone in particular suggested the extension of internships in the company. In the face of this, if there seems to be no reticence in welcoming interns / children alternating from the companies, the questionnaire nevertheless indicates that on average companies are willing to accept a lower number of students than in the pre-COVID situation (66% of cases). This data, which is probably influenced by the specificities of local economic contexts, therefore invites us to think of other forms of intra-school flexibility to be applied in cases where extensions of company time are not conceivable. Some good practices that emerged concern the organization of morning / afternoon shifts, the division of the class into multiple learning groups in the laboratories, the separation between transmission moments (in DAD) and reworking / laboratory moments (in presence).	• morning / afternoon shifts • extension of internships in the company • separation between transmission moments (in DAD) and reworking / laboratory moments (in presence); eg: each year of the course follows half history lessons in DAD (single group, 60 students with one teacher) and half in the classroom in groups of 15 to work more closely on reworking / critical skills. NB programming for subject areas necessary upstream to coordinate the work between teachers.

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Guidelines		What emerged..	Some examples
Enhancement of the forms of flexibility deriving from school autonomy	A properly planned fruition by students of face-to-face teaching and integrated digital teaching	The rethinking of teaching is the great theme and the great challenge of these months. Many "bricks" of didactic innovation already in place have emerged and the strengths and weaknesses of the DAD implemented in the months of the COVID emergency have been widely discussed: - a positive extension of the support offered to students and the strengthening of the relationship between family/school; - the greater involvement of pupils offered by the use of platforms and apps; - the greater fragility to which the relational dimension is subjected at a distance, due to the alteration of bodily interaction and proxemics; - the problems of the laboratory part of distance learning, different in different sectors and unsurpassed in some (where physical contact with the customer or the use of large machinery is necessary). Distance teaching cannot therefore in any way replace face-to-face teaching. However, a partial integration between the two, together with a didactics set up by modules with the destructuring of the class group, becomes a useful proposal to be recovered not only in the event of a new lockdown and a necessary increase in social distancing, but also to rethink in a way more effective daily teaching in presence. In case of lockdown, it might be useful to think about forms of relational support (with psychological / pedagogical counter, recreational activities, confrontation with small group tutors, comparison between peers, creative writing activities, ...). In many regions, the choice up to now has been the direct replacement of classroom teaching with synchronous teaching (simultaneous and whole class) which more directly reproduces the traditional starting formula. However, many have experimented, more or less extensively, with other integrated forms: an asynchronous part (e.g. for more frontal explanations or for the assignment of tasks / tasks) completed by a more laboratory or reworking part, perhaps in a small group, both in the professional field and in the cultural sphere. This solution is also significant in responding to some defects of the synchronous (including the problem of sharing devices, connections and spaces by several people of the same family at the same time, which risks placing pupils living in conditions of greater housing or socio-economic hardship in a more disadvantaged situation).	• Widespread use of virtual classroom management platforms (Google Classroom, Weschool, Teams) and in some cases of content platforms / apps (Mentimeter, Padlet, gamification apps); • someone has created a Youtube channel to share the video recipes; • some use methodologies attributable to the flipped classroom, with the assignment of individual / group searches, which in some cases are then presented to the class with the use of apps (eg. for concept maps); • asynchronous distance learning for frontal explanations / assignment of tasks, even with class groups;
	The aggregation of disciplines into disciplinary areas and fields.	The overall rethinking - of content and method - requires joint planning work for departments / subject areas, which is essential to set up a modular, interdisciplinary and experiential teaching method, and to support teachers in their work without overloading them.	• Many assign interdisciplinary reality tasks and project work (usually interdisciplinary) • in some cases the teachers work by disciplinary areas (cultural, linguistic, professionalizing area, each with joint programming for all the years of the course, shared evaluation grids, some tests prepared and corrected collegially)
Disability and school inclusion	An essential priority will be to ensure, by adopting all possible ordinary and extraordinary organizational measures, after consulting with families and associations for people with disabilities, the daily presence at school of pupils with special educational needs.	The difficulty experienced by the BES (Special Educational Needs students) (on a relational and cognitive level) with the DAD alone was repeatedly reported, which in some cases was faced with positive experiences of front office and personalized training even at a distance. We will also have to ask ourselves how to best integrate BES pupils in the event of a lockdown (if face-to-face training is to be favored, their exclusive presence at school would in any case raise a critical issue in terms of inclusion). The need to take into account all-round socio-emotional well-being and corporeality was underlined for all the players in the school ecosystem - pupils, teachers, collaborators - with educational and psychological desks, small group meetings with tutors, small group virtual meetings .	
School plan for integrated digital education (in case of new lockdown)	Guidelines for integrated digital teaching	All the ideas that emerged are valuable for the development of the school plan. There is a need to be ready for a new lockdown by providing for possible interventions, but also by planning school time that favors the provision of those activities that may be more problematic or impossible in lockdown. It is important to work on relationships in the first months of school (especially with the new incoming classes), in order to have a relational capital to be put to use in the event of a new lockdown	

	Guidelines	What emerged...	Some examples
Training	Educational institutions must organize, individually or online, specific training activities for teaching staff	In many cases (about 80% according to the questionnaire), IT platforms have been systematically introduced in the CFPs in response to the COVID emergency, which in this sense is transformed from a critical issue to a vehicle for innovation. In order to systematize this de facto innovation, it now becomes important to accompany the introduction of platforms with careful organization and management by the institutions: the platforms in fact represent effective, albeit virtual, learning spaces and are an extension of the school-space. . The importance of gathering all the contents / tasks / deliveries in one place, to facilitate communication with the student / family, and to organize communication by favoring one or two channels was emphasized. Furthermore, on the teacher side, there is the problem of acquiring the licenses of the content apps used and their organization. Also for this purpose, the theme of training and joint planning by disciplinary areas re-emerges, which can optimize and simplify the work carried out.	
	Methods and tools for evaluation, also in the light of innovative teaching and learning methodologies implemented, for example, through multimedia technologies	The question of evaluation is implicit in the choices made by at least some, especially in relation to project work. The DAD (and in general the development of the knowledge society) requires a rethinking of the evaluation because it requires a planning for competences and the valorization of the critical capacity. In fact, all the tasks of a mnemonic nature lose value if performed with digital media and access to the network, and become more difficult to evaluate. The use of shared evaluation grids for competences becomes useful.	• Skills assessment grids; • project work as an evaluation tool
Additional action items	Functional organization of external and internal spaces	One can think of the use of residual spaces (corridors, canteen, green areas, theater, gym ...) and the elimination of bulky furniture, together with an appropriate rethinking of teaching in terms of times and methodologies (see above).	
	Ensure secure entrances, exits and outflows	It is a question of organizing differentiated entry and exit routes. Entrance differentiation on a time scale presents difficulties related to means of transport which must be evaluated in collaboration with transport companies and which can however encourage the use of alternative means of transport where possible (bicycle, scooter, ...)	• Use of signs / stickers at the entrance and on the doors with hygiene rules and regulation of flows, and stickers on the floors to indicate the directions to follow; • use of wide corridors in two directions, with separate flows indicated by floor stickers, or provision of differentiated entry / exit routes in case of narrow corridors.
	Adequate distances at each stage of the school day, for pupils, families, school and non-school staff	The opportunity to provide devices for cleaning, sanitation and individual protection was discussed, but above all to educate in shared responsibility and a form of sociality suitable for the pandemic phase. To this end, it is necessary to involve families (e.g. to reassure the protocols adopted, even in the company, or to emphasize the importance of not letting people leave the house with flu symptoms and thus avoiding the measurement of the body temperature of students in entrance), and it is possible to actively involve students and teachers in cleaning individual workstations.	• Empower students with respect to cleaning operations and involve them directly (reinvesting the resources saved in reward activities / training / travel / devices)
	Promotion of health and safety culture	The need to base all considerations on data and to adopt a predictive approach in analyzing the different level of risk of the different sectors was stressed, taking into account that distancing and total hygiene can only be a dystopia. Especially in a situation of uncertainty and difficult predictability of the consequences, it is not possible to limit oneself to conceiving responsibility in criminal or paternalistic terms. This does not at all mean denying the specificity of the particular responsibilities deriving from roles nor the need for legal and public imputability, but rather it means placing these particular responsibilities against the background of a broader, contextual and relationally understood responsibility. Responsibility and dialogue with all actors - pupils, families, teachers, collaborators, local authorities - are at the heart of an educational pact to be relaunched.	

Austria

Referring to the implementation of the Federal Government's Digital Pact 74 percent of the training companies in the CCI sector (Chamber of Commerce and Industry) aim for a learning platform provided for their vocational school. Secondly (64 percent) the companies mentioned a blended learning offer for their trainees, for instance a combination of classroom lessons at school which are accompanied by e-learning. Such a hybrid model is a contemporary solution which helps in times of crisis and contributes to bridging the distance between companies and vocational schools which are more distant. 52 percent of the enterprises would like to have the option of e-mail contact with the vocational school and 30 percent would like to have an electronic class register (Friedrich 2020, 10).

Steady digitalisation also facilitates the desired closer cooperation and improved communication between the training company and the vocational schools (Friedrich 2020, 10). The options of digital schooling are being tested. School closures indicate that teachers are forced to create alternative possibilities and assignments for students to learn online. In theory, digital education formats are diverse. The recent PISA study even shows that students of countries where schools rely on digital education in the classroom have better reading skills (Engels 2020, 2).
Unfortunately, several schools and teachers do not use adequate learning platforms and digital communication channels – especially not ones which are adapted to mobile devices. Students, on the other hand, are online primarily via their smartphones (Engels 2020, 3).

Finland

Finnish experiences from the pandemic (20.10.2020 ITK digital education and learning event webinar: Experience tour from different disciplines by Teaching counselor Minna Taivassalo

Even before COVID and exceptional circumstances: Vocational training in Finland had been organized in different learning environments and with different teaching arrangements, and the amount of distance learning was not limited. In general, VET providers have been able to implement distance learning well during exceptional circumstances. Training providers, who had already developed workable digital solutions for teaching and guidance before the corona epidemic, were ready to quickly provide quality teaching and guidance remotely during emergency arrangements. In addition, co-operation in working life also made it possible to demonstrate competence using digitalisation.

Lessons learned from exceptional times
Combining distance and contact teaching so-called hybrid teaching has become commonplace, learning environments have been further diversified and e-learning has been developed. Teachers have been resourceful in utilizing digital pedagogical solutions and have smoothly implemented various online solutions. Teachers have made use of various online meeting systems, community work platforms as well as videos and podcasts, as well as individual tutoring tools in organizing teaching. In vocational education, it is very important to continue developing digital solutions for teaching and guidance services.

What helped teachers in coping with exceptional circumstances
• Fostering the community spirit of work and study communities
• various online events for teachers, tutors and students
• coffee sessions offered to volunteers or, for example, joint events
• chat forums or question forums for students, guardians and representatives of working life
• Organizing digital pedagogical support for teachers, helping others and sharing culture
• work pair and team work
• various digital support points and online workshops to support teachers' work
• joint planning of teaching and sharing of learning resources among colleagues
• A nationwide library of open learning materials utilizing content sharing

What helped students in coping with exceptional circumstances
• Supporting student functionality
• During distance learning, the course is guided by functionality and practical work
in the student's own operating environment and to documenting one's own work.
• Teachers have made instructional videos or real-time teaching streams
network from a variety of functional exercises and environments.
• Once workplaces have been closed, there has been a need for internships, simulators as well as virtual learning environments in educational learning establishments

Concrete experiences from the field

Blog writing by Maija Mäkinen, senior lecturer at Jyväskylä University of Applied Sciences

Jyväskylä University of Applied Sciences launched a survey of teachers and special needs teachers in special education support, with the aim of finding out how the exceptional situation brought about by the COVID19 virus has changed the work of special needs teachers and management and coordination of specific support.

When asked about the change in work caused by the exceptional situation experienced by the respondents, almost 72% felt that the change was significant or very significant. Only 6% of respondents felt that the change in work was not significant or minor. When assessing the magnitude and significance of the change, respondents' experience has shown that the biggest changes have been in the work with students: 78% of respondents rate the changes as significant or very significant. 58% of the respondents felt that the internal co-operation of the institution had changed significantly or very significantly, while external co-operation was felt to be less affected by the exceptional situation: 47.5% felt that the change was significant or very significant.

For some students, distance learning works, for others it does not. It is only acceptable.

The strengths of many students now emerged in a new way when learning did not take place in a traditional group situation. However, for some this distance learning was too challenging and for some the family situation did not give peace to studying. Some of students developed new traits as actors, some even worked better in distance learning than in face-to-face study when the support was properly targeted. The course helped the student to transfer everyday skills to a place other than the educational environment.

Student support - "Not the quantity, but the quality of the encounter"

Central to the success of distance learning is that students have the necessary tools and skills to use the online applications and tools. Guidance on how to use the applications should be done in contact teaching. Immigrants, for example, may only have a phone with a small screen that could be difficult to use. Still, the "digital world" is unequal.

None of the graduating students missed out due to lack of support or guidance. Everyone graduated, as was planned. Only a few students in my field had to perform the skills demonstration at an educational institution (rather than in an actual workplace) to guarantee graduation.

Not the quantity but the quality of the encounter is important!

Teaching technologies and methodologies in the pandemic

European scenario concerning teaching technologies and methodologies during the pandemic era

Regarding the available and used didactic technologies and applications a very useful document has been produced by the European Commission "Employment, Social Affairs and Inclusion" named "How VET stakeholders are facing the COVID-19 emergency".
This document brings together a series of resources put together from different information sources:
- main initiatives of international organisations active in the field of education and training;
- resources shared on various EU platforms;
- resources shared through the survey;
- resources identified by the ET 2020 Working Group on Innovation and Digitalisation in VET.
European Commission "Employment, Social Affairs and Inclusion", How VET stakeholders are facing the COVID-19 emergency, (2020)

Besides some essential software such as a web conferencing tool to organise live sessions, an efficient Learning Management System (LMS) – like Moodle, Google Classroom, Microsoft Teams, Schoology or Edmodo – is also needed. This helps to create a virtual classroom in which to share resources and materials and communicate flexibly with our students.
The real challenge, however, is to provide effective distance learning with meaningful activities to keep students focused on their learning goals and performance objectives.
As it is not feasible to keep students in front of a screen for hours, long academic-style video conferences are preferably avoided and replaced by shorter online sessions and micro-lessons to explain the learning scenario. In order to avoid limiting online live sessions to one-direction information transfers, teachers could make part of the lesson content into videos that students can watch asynchronously at their own pace. Time spent online with teachers can then be used on interactive, creative and problem-solving tasks, for example through polls, exit tickets and moments of reflection. Equally important is the planning of post-connection deliveries and deadlines.
Teachers might also feel the need to formatively assess students' learning progress in order to provide personalised feedback. For example, students can complete online quizzes – like Socrative, GoFormative, Liveworksheets, LearningApps and Wordwall – or play games in teams like Kahoot!, Quizzizz or Quizlet Live.
As for the summative assessment of students' performance in distance teaching activities, online testing may raise concerns about plagiarism and cheating. Therefore, it might be easier to evaluate the learning process on the basis of creative tasks like digital storytelling, and to focus on skill acquisition such as learning to learn, cooperation, active participation, progress and commitment.
Anna Laghigna, Distance learning: challenges and opportunities, School Education Gateway

Excellent blog with the following content:

"How would you feel if someone said you need to change your whole approach to teaching immediately? Imagine if, instead of interacting face to face with students in your classroom, you had to create and deliver a virtual program.
Perhaps you'd feel nervous? Overwhelmed? Excited? Unqualified? Inspired? Or perhaps plain lost.
During April 2020, remote learning became a reality for over 90% of students worldwide. Teachers, students, families, administrators, departments, and whole communities are being forced to respond and adapt quickly."

The guide will give insights into how educators around the world are approaching school closures.
Thousands of teachers worldwide are currently sharing snippets of their experiences via social media or their blogs. We've compiled, curated, and built on some common themes and ideas to create this extensive guide.

- Daily structure options
  - Synchronous Vs asynchronous learning
  - Examples of how video is weaved into the day
  - Example timetables: structured Vs a "to do list"
  - Helping students plan their day
  - How to plan an online lesson
- • Setting up a virtual home base or online platform
  - o Three step approach:
    - District/state education department
    - School website or school blog
    - Classroom LMS, blog, or other online community
    - Getting started with blogging
- All about using videos and conferencing in online learning
  - Tools and tips for synchronous (live) video conferences
  - Tools and tips for recording asynchronous videos and screencasts
  - Record a piece to camera

- Free online tools for virtual learning
    - Summary of some popular free tools
- A Note on Students and Books
    - Where to find digital reading material
    - Can I read aloud to my students?
- 10 tips for virtual teaching and learning
- Obstacles and issues created by school closures
    - Students/families
    - Teachers
    - Schoolwide issues
- Planning for a School Closure: Parent Survey
- Planning for a School Closure: Taking Home Resources
- Checklist for Administrators and Educators Facing a School Closure

Kathleen Morris, Resources For Teaching Online Due To School Closures, Campus Press - https://www.theedublogger.com/teaching-online-school-closures/

Italian VET Scenario concerning teaching technologies and methodologies in the pandemic

The confinement of the spring months of 2020 - clearly shocking and heavy in many respects - has brought with it a radical technological innovation in Italian schools. Not to mention the institutions participating in our webinars, it is on this occasion that about 80% have equipped themselves with digital platforms. Of course, the mere adoption of technological means is not enough to guarantee an innovative teaching action, especially since, in most cases, given the emergency context, this adoption was neither mediated nor adequately accompanied.

However, the months of lockdown have abruptly forced teachers and students to experiment with alternative solutions and to deal with the massive use of information technology. To systematize this factual innovation, it now becomes important to insert it into an organic logic, which moves from the different experiences and difficulties experienced, and makes full use of the potential of the means now widely available. The rethinking of teaching is therefore the challenge on the agenda. The strengths and weaknesses of Distance Learning (DaD) were in fact one of the main topics of discussion during the webinars. If we look at what was perceived by the participants, the strengthening of the relationship between family/school and the greater involvement of pupils guaranteed by the use of platforms and apps emerged as strengths, counterbalanced by the fragility to which the relational dimension is finds subject - especially with children with special educational needs (BES) and with those from disadvantaged backgrounds - and the frequent lack of devices and adequate connection.

We must consider also, in the professionalizing field, both the problems raised by laboratory practical training (different in the different sectors and insurmountable where physical contact with the user or the use of large machinery is necessary), and those related to the impossibility of carry out internships in the company for some sectors. As for the solutions adopted, among the participating institutions, also due to a certain rigidity in the regional reporting regime of student hours, it was mostly opted for the direct replacement of classroom teaching with synchronous DAD (simultaneous and full-class videoconference) which more directly reproduces the traditional starting formula.

However, some have experimented other integrated forms, offering a part of the DAD in asynchronous (i.e. video recording for more frontal explanations or interaction via email, forum or social network for assigning tasks / deliveries) completed by a more synchronous part, as workshop or reworking, perhaps in a small group. Integrated solutions of this kind well interpret the suggestions of the Guidelines which, among the forms of flexibility deriving from school autonomy, have indicated very appropriately the reconfiguration of the class group into different learning groups and the articulation by modules also addressed to mixed groups of students from different years. Someone was inspired by the flipped classroom model for this, while others used more or less advanced forms of remote project work. In view of the return in classes, but with some limitations (number of students, distancing space), some have planned to divide the class into several learning groups in the laboratory, to be managed with different tasks and spaces. Someone, both remotely and in planning for the return to nearly normal activity, has continued in the configuration of an effective deconstruction of the class group and of the association subject teacher-class. In these cases, the DAD can help both to manage the activities of the different groups at the same time and to recover resources by combining classes in the "less active" moments (i.e. frontal lessons); the resources recovered can then be used to organize other activities in sub-groups in more active/creative moments, both in the professionalizing and in the cultural sphere.

Practices of this type, in the event of resuming face-to-face teaching, are however more easily compatible with the needs of distancing, since they reduce the number of students present at the same time. The integrated use of synchronous and asynchronous approaches is significant for at least two reasons. In the first place, as we have just seen, it allows to implement flexible teaching solutions that are more suited to the potential of the means of communication, and to support the deconstruction of learning groups, thus moving in the direction of an innovation that does not end in response to the health emergency. Secondly, it allows to modulate some distorting effects of equal access raised by the synchronous DAD, linked to the sharing of devices, connections and spaces by several people of the same family at the same time, sharing that places pupils living in a disadvantaged conditions of greater housing or socio-economic hardship. Used in this way, the DAD implies an overall rethinking - of content and method - which cannot fall on the shoulders of the individual teacher, but undoubtedly requires specific training and joint planning work at multiple levels. In this sense, the importance of planning open to contributions by all the players in the educational ecosystem - first and foremost children, who are the real engine of the system - emerged. The Guidelines have also suggested training and planning for departmental areas, and some participating Training Centers have moved in the same direction. At the school level, the planning of teams by subject areas seems an indispensable tool for setting up an interdisciplinary modular teaching method, to deconstruct the association between the class - subject teacher as well as to optimize the work of teachers without overloading them. According to some participants, it also allows for a more structural approach to the issue of evaluation that the Guidelines have left in the shade. In fact, the DAD strongly recalls the importance of didactic based on skills, rather than contents, given that all tasks of a mnemonic nature lose value if performed with digital media and access to the network. Grids and tests for shared competences at the level of the institution can then facilitate the work of teachers. An equally important element, not present in the Guidelines, is the provision of adequate organizational tools (including, for example, a register set by course year and not by class can allow greater flexibility in the management of learning groups).

We must add, at a higher level, the need of a negotiation dialogue with the entities (region / province) aimed at identifying, in the folds of the legal rule, interpretations that allow to reconcile innovation and the regulatory framework. In light of all this, the shared belief is that distance learning cannot in any way substitute for face-to-face training, especially if we consider the centrality of the laboratory and internship experience in a professional training course. However, a partial integration between presence and distance becomes a useful proposal to be recovered not only in the event of a new lockdown and a necessary increase in social distancing, but also to design daily teaching in the presence more effectively. If inserted within a concerted and open project, the tools of distance communication can, in short, suitably integrate and improve teaching and the ability to interact individually with students, even outside the pandemic horizon. (Faitini, 2021)

Distance Learning is not a methodological option that fatally reduces the field of teaching to just educational activities, but it represents a way through which students are offered a fully formative path, through solutions that take into account the context, as long as they move within a clear curricular perspective. There are three movements that are indispensable for a formative action to take place:
1. CANONICAL DELIVERY: clarify to young people what really matters in our culture. But also to find the most appropriate ways to express the fundamental experiences of our existence, as it is necessary to understand ourselves, our place in the world, the task and the destiny;
2. ENGAGEMENT: The students verify the truthfulness of the delivery by taking charge of challenging situations, in which they show that they know how to mobilize what is in their possession, and what they discover gradually in reality, in order to pursue positively judged results;
3. REFLECTION AND ARGUMENTATION: The action carried out in reality is not mere "practice", but true culture, since it allows the student to enrich his preparation and his conscious grasp of the world.

Therefore become clear the need, in times of health emergency, to adopt multiple training practices, in the context of e-learning, capable of providing the right quality to learning, with a conduct of didactic action that includes explanation, face-to-face dialogue, the access to resources and services, the autonomous mobilization of students on authentic tasks, remote collaboration between them, the argumentative presentation of what has been achieved.

Let's now see a review of active and personalized teaching opportunities that can be implemented within a real distance learning strategy: videos and tutorials, simulators, design platforms, Smart Apprenticeship. But above all, from a methodological point of view, the reality tasks and project work.

1. Use of videos and tutorials.
The web is full of an unthinkable amount of videos and tutorials that often explain in a clear and direct way how to do a specific job. Videos and tutorials can't replace the real training, in which the student acquires a true mastery and learns the "tricks", but they represent valid teaching support tools based on the close visual and auditory link between the formal contents and professional practice.
A tutorial video can be managed in the following way:
- Introductory lesson by the trainer;
- Common viewing of the video
- First delivery to the students (for couples or three components) could be to produce papers on: rules, tools, errors, safety risks and the devices, the scientific principles underlying the practice, the bilingual glossary;
- Second delivery: search for other tutorials on same topic making a comparison and evaluations
- Presentation of the works carried out and elaboration of a common dossier.

2. Simulators
Simulators are applications that can be installed on both laboratory PCs and home PCs, as well as on smartphones and tablets, to facilitate individual study and exercise. Just as an example "Thermoware" is a didactic software for simulation of technical systems, which deal with topics of thermotechnics, motor engineering and fluids, designed for specific training in the management of this type of industrial installations. Each software has an interface, which shows a technical system graphically reproduced with conventional technical symbols, which are sometimes associated with windows, which allow the reading of the measurable parameters at that point of the system. The software is interactive, the student is able to intervene and change the operating conditions in order to optimize performance. Some software allows viewing or printing of interesting diagrams and operating parameters. The teacher can insert faults or malfunctions in the student's exercise, which will show up after a predetermined time from the beginning of the exercise, which the student will have to solve, choosing the exact one from the proposed interventions; the result will be communicated by the program itself automatically. These software can be considered complementary or even substitute in some respects to traditional laboratory equipment.

3. Design platforms
Design platforms are technological devices that allow students to create drawings, technical plans and projects of various kinds, from office administration to graphics to information technology, logistics and electronics. "Arduino" is an open-source electronic platform to which a considerable group of developers is dedicated. This depends on the versatility, and at the same time simplicity of use, of the device both from a hardware point of view, but above all in terms of programming, so much so that in recent years it has been able to evolve by producing more and more advanced versions, also growing exponentially in various areas of application. In fact, Arduino was

born as a development kit for students who did not have a technological background, while over the years it has become a popular device in many technicians and professionals' laboratories. Arduino has therefore become a technological ecosystem with considerable application versatility: starting with simple starter kit modules and then moving on to products for the Internet of Things, 3D printing and various embedded environments. Its potential is therefore remarkable precisely because all Arduino boards are completely open-source, so they allow users to independently create their own solutions, adapting them to their particular needs. This allows a wide didactic use of the platform with the possibility of exercises carried out at a distance step by step according to the plan of the trainer, but also of autonomous realizations by the students, ranging from the simplest to the most complex.

4. Multimedia

Over time, the use of multimedia has had a tumultuous and alternating didactic application, outlining various phases corresponding to both the different generations of software offered and the economic resources available to schools. The first reason for this expansion refers to the marked preference of students towards the use of communication technologies in its various forms, with a strong preference for videos. This recalls the iconographic world that stimulates their mind, but also the desire to make themselves present to others through images, presentations, youtube videos, which is made possible through the intuitive and autonomous use of the applications contained in each device. Multimedia goes well with the methodology of active teaching, especially with the need for students to document their achievements and make them easily accessible to others. Hence the enormous evolution of multimedia in Italian schools, with a strong training potential in every didactic activity, and in particular in the following areas of application:
• basic graphic design through the use of programs that allow you to draw, manage images , illustrations and layout of communication tools: newspapers, brochures, posters, etc .;
• specialist graphic design in various environments: building, gardens, interiors, objects for prototyping and production;
• production of professional videos for the world of communication;
• creation of websites;
• 3d graphics as a simulation and analysis tool applied to technical design, but also to other sectors such as virtual reality, video games, animation and concept art.

5. Smart Apprenticeship

The Smart Apprenticeship is a version of, so called in Italy, "Smart Working" applied to school-work alternation and the dual training system, which allows you to work during the health emergency partly remotely with the constant support of the fiduciary tutor and within multiple relationships with companions, colleagues and trainers. Smart Working consists of "Agile Work", or "a modality of execution of the employment relationship characterized by the absence of time or spatial constraints and an organization by phases, cycles and objectives, established by agreement between employee and employer ; a modality that helps the worker to reconcile the times of life and work and, at the same time, favor the growth of his productivity ». Similarly, the Smart Apprenticeship allows alternation and apprenticeship activities to be carried out according to a highly flexible and autonomous path in relation to the choice of spaces, times and tools to be used, urging the subject to greater responsibility for the results. Of course without canceling mentoring and cooperation relationships, even if in a condition of less direct contact. This method goes well with collaborative work, co-working spaces and fab labs that signal the increasing diffusion of cooperative work, huddle rooms, small spaces specially designed and set up to host virtual meetings between work teams. Here is a very advanced example of an accomplished apprenticeship path (https://www.smartapprentices.com/):
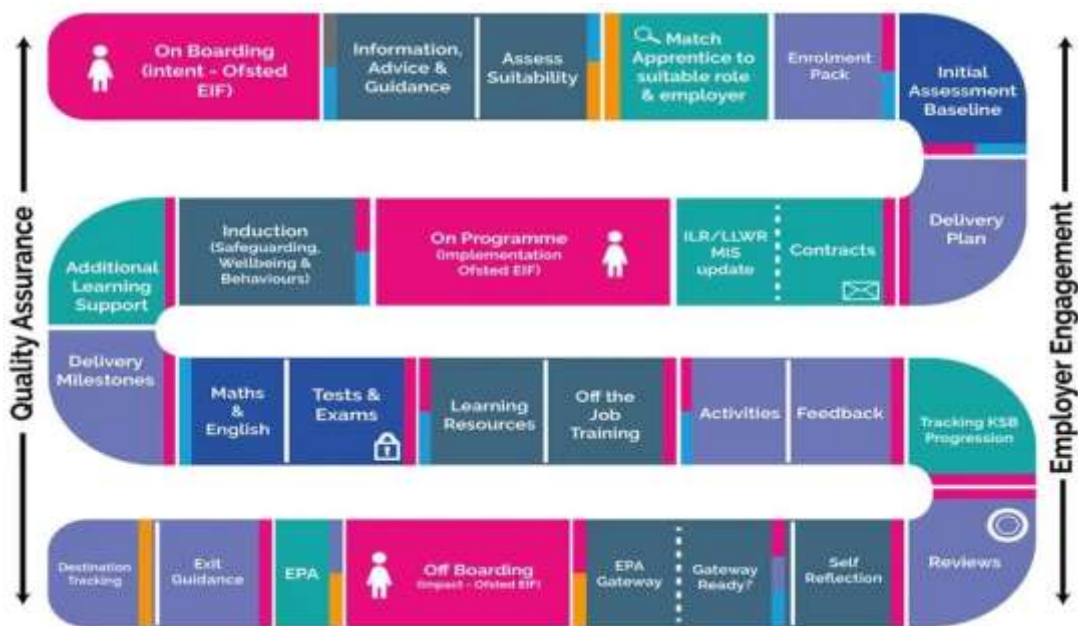
In line with the "workplace change management", an organizational change centered on the revisiting and redesign of spaces, the Smart Apprenticeship is an ecosystem of technological platforms specially designed for training providers according to evaluation criteria based on the recognized quality of excellent apprentices. It includes the following features:

• An e-portfolio platform designed to track the progress of all learners regardless of their schedule. This portfolio includes customizable delivery goals, opportunities for external tutoring and for student feedback;

• a progressive learning tool for mathematics and English, with questions that allow initial diagnoses and formative tests along the path, depending on the entry levels, capable of reporting progress and approaching the completion date of the course;

• a final assessment device specially designed to provide a smooth and seamless transition to entry into the labor market;

• a matching system between the student and the employers that allows the former to advertise his application and connect with the companies concerned, and the latter to search for an apprentice and follow the entire recruitment process in one easy system.

The one presented is a very "extreme" solution compared to the Italian training and organizational culture, especially taking into account the fact that in countries such as Great Britain, the intermediation between job supply and demand takes place largely through IT platforms to which they can be interfaced, which is based on the principle of confidence and, therefore of recognition, between the parties involved. In Italy, the informal methods of guaranteeing the candidate's reliability prevail, in addition to the famous "experience", which often for those looking for their first job translates into a phase of transition precariousness, while for some of them it can lead to chronic precariousness. For our country, a model of Smart Apprenticeship - or Smart Working training - would therefore be necessary and it would at least allow young people to be able to carry out a part of the alternation and apprenticeship experience using flexible and personalized formulas according to the e-learning approach. It is evident that nothing replaces the real laboratory and the student-teacher relationship, but real "competent" operations can be included in the on-line teaching. Many laboratory activities can be carried out through platforms, dedicated software, simulation and design.

About the methodological aspects above all, the reality task and project work are the most powerful learning activities for the implementation of an active and personalized learning, with relevance also for the professional area, which can be managed through e-learning:

1. Reality task

The strategy of the reality task aims to provide students with "learning opportunities" that are active and open to the context, involving themselves in which, let emerge their forces of life and knowledge, find their role and invent strategies to reach the set goals, mobilizing their resources (knowledge, skills and attitudes) and positively addressing their limits. It is a "task-challenge", mainly for educational purposes, placed within a real context with non-hypothetical interlocutors, in a situation placed at the intersection of various relational, cultural, technical and procedural factors, open to discoveries that are such also s for the teachers themselves, with a more complex delivery given by the intertwining of problem posing - that theoretical and practical process that serves to transform a problematic situation into a well-defined question - and the problem solving that requires the student to be able to translate the previous indications into an intervention project that takes into account the context (material and immaterial), to be managed in terms of sustainable benefits for the real recipients. These are not exercises about rules or formulas. The openness to the unexpected, the creation of an appropriate

response to the challenge-task and the possibility of marking the entire path with one's own original imprint, are the three characteristics of the reality task that make it an indispensable step in a completed training , which can only be accomplished through a full engagement of the student.

He will proceed according to a five-step method:
• Experience
• Understanding
• Judgment
• Action
• Reflection, Communication and Argument.

The need for the student to understand the delivery, to design-manage-monitor the operational process, to make decisions in critical moments is decisive. Finally, full awareness of what has been done, acquired and matured.

2. Project work

The project work indicates the best achievement of the student, elaborated at the end of a significant teaching period, in the form of a response to a problem-opportunity of the real context in which the alternation takes place, as well as in reference to themes ranging in various fields of knowledge in which he was able to deepen his knowledge and mastery. It is a demanding task that tests his real preparation and is proposed as a significant challenge that allows him to highlight his abilities and skills.

Project work requires:
• an explicit client;
• a diagnosis of the context;
• an intervention proposal to be agreed with the client;
• a project that concludes with an implementation plan indicating the expected outcomes and their value, the resources and conditions of feasibility.

Some fundamental criteria for the development of a project work are recalled:
• the topic is defined by the student in agreement with the trainer of the reference cultural axis and the expert tutor who followed the preparation;
• since this is a topic of personal interest, the student will have carried out independent research and in-depth activities that enrich the final paper;
• the final presentation must be not only documentary, but also reflective and argumentative, where the student highlights the links between the action performed (tasks, problems and opportunities) and the knowledge of the disciplines involved, as well as personal maturation. For all of the foregoing, the project work has a significant evaluation value especially for the interview of the final exam, where the student can demonstrate their preparation and also the maturation that took place along the course of their studies.

Formative evaluation in the Distance Learning context

All of the above constitutes the essential reference framework in order to obtain all the evidence necessary for a good evaluation of the training activity. In fact, evaluation is not a phase of the educational action, which begins when teaching is interrupted, but should represents a constant attitude.

The evaluation of the learning and training results achieved with Distance Learning activities:
• must be set according to a new and shared pedagogical-didactic framework: the training carried out by entering the students' home is always a community of practice and learning;
• it must have a strongly formative character that helps the student to perceive the purpose of learning in this new situation, to consolidate their strengths, to feel valued, to use errors positively, to grow in the ability to self-evaluate;
• it must be calibrated mainly on skills and not exclusively on knowledge;
• it is used to have feedback on the proposed activities both to measure learning and to record commitment and participation;
• must be enriched by the trainer through certification, in addition to disciplinary learning, also of transversal and citizenship skills;
• it must be coordinated in the modalities, criteria, values, among the team trainers;
• must be carried out in a constant, transparent and timely manner;
• must be systematically documented through a sort of logbook referring to each student.

More specifically, implementing a formative assessment in the Distance Learning context means:
• carrying out a systematic survey of participation, through the behaviors demonstrated by the students: attendance at online lessons, production of materials in compliance with the instructions, ...);
• assess the quality of the interaction: involvement in online experiences, the ability to work with other peers, the ability to overcome crises;
• evaluate communication and reflection: richness and relevance of the questions they ask, ability to re-elaborate personal (ability to grasp links and make connections between topics, comparison with the self, deepening), ability to orient oneself in the solution of a problem, reflection criticism, argumentation of the reasons for the answers and solutions found;
• evaluate the ability of self-assessment and the awareness of the students about the gains achieved through the study.

The evaluation of the contents is carried out:
• giving preference to face-to-face oral interviews and tests via video-link in the presence of other students;

• carrying out written tests and tests, including simulations of exam tests, entrusted to the students through virtual platforms, emails or other specifically chosen ones;
• limiting the use of graded tests, preferring, also for the guarantee of correctness, questions of understanding, connection, reflection and argumentation.
(Nicoli, 2020, pp. 70-73)

Finnish VET scenario concerning teaching technologies and methodologies in the pandemic

Video conferencing programs like Zoom, Google Hangouts Meet, Teams, and Skype provide opportunities for real-time learning and interaction. Whatsapp, for example, can also be used for quick communication and communication with students. Many programs allow students to be involved and work remotely. For example, the Padlet program can collect students' work and ideas, which also enables community knowledge building. Google Forms, Quizlet, and Kahoot can be used to conduct electronic questions, and thus can also be used to assess students' skills.

In addition to these various tools, there is a huge variety of learning materials available on the Internet for use in distance learning. However, the most important thing in distance learning is that there is one tool for managing learning environments and tools from which the student can centrally find the materials and working methods of the distance learning day. For example, Peda.net or Google Classroom are suitable for this. (DigiErko 2020.)

Teachers trade union study

The accessibility of the learners was highlighted in a survey conducted by the teachers' trade union on the arrangements for teaching exceptional circumstances. It was answered by more than 5,500 teachers, principals and supervisors from primary school to university.

Significant deficiencies in equipment

Teachers work mainly on a computer provided by the employer. However, only teachers in vocational schools and polytechnics have comprehensive work telephones. In primary education, only 44% of teachers use an employer's telephone.

For remote working, teachers most commonly use their own home network connection.

Teachers generally consider their own competence to be exceptional in an emergency. Teachers were asked to rate both their digital and pedagogical skills. The equipment and programs used in distance learning were familiar to the majority of teachers. However, for about 40 percent of teachers, at least some of the key distance learning tools were new. Learners have also been required to use digital leap. Only in high schools and colleges were the key tools of distance learning familiar to the majority of learners. At other levels of education, the tools were new to the majority of students.

Almost all teachers in high schools, polytechnics and universities are able to communicate with most of their learners in real time with the tools available. In contrast, in basic education and vocational training, teaching gaps are severely hampered by teaching.

Technology used varied between institutions

Most vocational training centres adopted at least one online meeting tool, most used either Teams or Zoom for online meetings. Alongside these, multitude of different participatory tools were also used in online settings. These technologies included tools like Kahoot, Flipgrid, Mentimeter, Flinga and Padlet. Many student groups also began using WhatsApp as messaging tool. The variety of the tools is depicted in the OREO online learnin model.

OREO Online Learning model that was translated into Finnish by the national DigiErko network

Tools for online discussions and connection with others

Flipgrid Voicethread

Create a grid for
- Discussions
- Reflections
- Book talks
- Mini-presentations
- Debating
- Explaining solutions
- Content check-in

Parlay

Provide the prompt for
- Back-and-forth discussion
- Developing critical thinking
- Synchronous or asynchronous classroom discussions

NowComment

Upload a document for
- Annotation
- Generating in-depth conversations about text, images, video, and audio
- Summarizing text

Many articles can be found on Newsela.

Slido

Create a meeting place for
- Interactive question and answer sessions
- Real-time dialogue in timed sessions
- Getting feedback from students about their online learning experiences

Tools for creating and checking for understanding

Padlet

Create a padlet for
- Gathering students' work and organizing a 'gallery walk'
- Live question banks
- Sharing book reviews
- Poster presentations
- Sharing student film trailer projects

Screencastify

Record screen for
- Explaining difficult concepts
- Describing a process
- Giving presentations / feedback

Great tool for teachers to flip their classroom.

Google Form

Create a Form for
- Creating a quiz to identify and clarify misconceptions
- Assessing knowledge and understanding
- Seeking student feedback

Quizizz

Create a fun quiz for
- Content review
- Using quiz results to inform instruction
- (or) Invite students to create their own Quizizz to review

Peardeck

Use Peardeck for
- giving presentation and engaging students to interact with the slides
- social-emotional checks
- explaining answers
- brainstorming

Edupuzzle

Use Edupuzzle for
- inserting questions videos for students
- gathering data to monitor student progress

Great tool for teachers to flip their classroom.

Quizlet

Use Quizlet for
- live trivia games for individuals and teams (Quizlet Live)
- building vocabulary and terminology
- tracking learning by completing different study activities

Jamboard

Use Google Jamboard for
- annotating images and texts
- brainstorming by using sticky notes
- teaching on the digital whiteboard
- small group note taking

Ideas for virtual icebreakers

Screen Breakers

Building community and breaking down the virtual barrier in your online classrooms, offices, friend groups, and more.

Question of the day

50 questions to ask middle and high school kids to check in and get to know them better. Or create your own.

Would you rather

3 websites that have hundreds of Would You Rather...? questions. You can adapt questions relating to the unit.

Quizbreaker

100 virtual team building activities for remote teams. Includes instructions and handy links!

6 Oreo Objectives – Responsibility – Expectation – Organisation by Alison Yang

"For some, self-direction is not enough to take studies forward when studying is focused on independent study at home. Some students also have their own personal problems highlighted and thus impaired academic progress. (Vocational education teacher)

"There is a clear dichotomy in the students. For some, distance learning and different hybrid models are very positive and even increased learning motivation and outcomes. Correspondingly, for some, distance learning has caused difficulties." (Lecturer at the University of Applied Sciences)

In the context of the coronavirus, Finnish researchers have conducted a literature review to identify the opportunities and challenges of distance learning. The study found nine benefits of distance learning and nine challenges to the success of distance learning. The study

showed that there are many challenges to the success of distance learning that should be taken into account in the implementation of distance learning in order to achieve benefits. These challenges are:

1) changes required in teaching methods,

2) changing the roles of teachers and parents,

3) learning difficulties,

4) teachers' negative attitude towards the use of technology

5) lack of skills and support in the use of technology,

6) lack of up-to-date technological infrastructure,

7) lack of social contacts,

8) the negative effects of distance learning on students mental and physical well - being and

9) increased workload and need for resources.

Austria VET scenario concerning teaching technologies and methodologies in the pandemic

Steady digitalisation also facilitates the desired closer cooperation and improved communication between the training company and the vocational schools (Friedrich 2020, 10). The options of digital schooling are being tested. School closures indicate that teachers are forced to create alternative possibilities and assignments for students to learn online. In theory, digital education formats are diverse. The recent PISA study even shows that students of countries where schools rely on digital education in the classroom have better reading skills (Engels 2020, 2).

Unfortunately, several schools and teachers do not use adequate learning platforms and digital communication channels – especially not ones which are adapted to mobile devices. Students, on the other hand, are online primarily via their smartphones (Engels 2020, 3).

An essential aspect of the digitalisation of VET (vocational education and training) is the usage of mobile devices. Smartphones, tablets and laptops are applied for communication, and with them the working procedure is controlled and executed (Biebeler and Schreiber 2020, 25). Another matter of digitalisation is the status of the application of digital media for training. Digital media in vocational training comprises, for example, apps and learning programmes or research on the internet (Biebeler and Schreiber 2020, 26).

The principles of public and private educational institutions invented alternative procedures for teachers and their learners to proceed with their instructions when attending school was not possible and were developing techniques that will adapt educational establishments for working in a secure setting (Reimers et al. 2020, 3).

Although students having access to the internet and digital devices belong to the minority group, assisting governmental institutions in arranging robust ways of online education will open up institutional effort and performance to reroute their sight on achieving alternatives for learners that do not have related potential. This annotated variety of digital aids projected for learners, tutors and parents, endeavours supporting governmental institutions and training leaders as they search and evaluate several techniques to carrying on educating students during the COVID-19 Crisis. The people designing or enhancing a schedule for training continuance by either directly including some of the output into their schedule, or using them as a template to generate their own digital training materials, can make use of the tools (Reimers et al. 2020, 3).

Additionally, in order to categorise each output by version, tongue, subject and school grade, the resources have been rated on a scale from one to five (with five being the highest). Moreover, the resources were coded with the competences or skills they enhance such as social, emotional or cognitive, to support learners outside of school. Furthermore, it assists teachers which resources are developed to serve a specific objective.

The outputs are divided into three approximate groups, in accordance with their intention:

Curriculum resources: These resources comprise of lessons, videos, interactive learning methods and numerous other resources which instantly support students in acquiring knowledge and skills (Reimers et al. 2020, 4).

Name	Description	Language & Cost	Skills
Education Perfect https://www.educationperfect.com/ (Reimers et al. 2020, 7)	It applies a Mastery Model: the evaluation adjust to the learner's progress development. *Education Perfect* offers numerous tools for assessments and content is marked automatically.	Available in 80 countries, Free registration - full set is not free	Cognitive, Interpersonal and Intrapersonal Skills
TEDed https://ed.ted.com/lessons?direction=desc&sort=featured-position (Reimers et al. 2020, 9)	It offers video tutorials organised by subject, age, blogs and topic. Students are able to register for a daily lesson plan. Lessons are ready-made and self-paced.	Mostly in English, Free	Cognitive, Interpersonal and Intrapersonal Skills
Scoilnet https://www.scoilnet.ie/ (Reimers et al. 2020, 11)	It contains qualitative and diverse resources tailored for students and tutors. Tasks and guides can be supported by adults or independently. Material requires critical thinking and learning throughout subjects.	English, Free	Cognitive, Interpersonal and Intrapersonal Skills
Mathsbot https://mathsbot.com/ (Reimers et al. 2020, 12)	It offers interactive detection-based studying, as it offers a chapter which provides online alternatives of usual math manipulatives for children.	English, Free	Cognitive and Intrapersonal Skills
Math-u-See https://www.mathusee.com/ (Reimers et al. 2020, 14)	It applies videos, physical manipulatives, printed workbooks and test books. The program is mastery-based which mostly concentrates on one matter and provides numerous options for exercises and repetition.	English, Paid programme	Cognitive and Intrapersonal Skills
BrainPop https://www.brainpop.com/ (Reimers et al. 2020, 13)	It provides brief and vital videos for the subjects Natural Science, Welfare Studies, English, Maths, Arts and Music, Health, and Technology. Each video has a follow-up quiz and task.	English, Free during closure of schools	Cognitive and Intrapersonal Skills
Global Digital Library https://digitallibrary.io/ (Reimers et al. 2020, 6)	It provides free books for children across a diversity of issues, reading skill, topics and subjects.	Available in 40 countries, Free	Cognitive, Interpersonal and Intrapersonal Skills

Professional Development Resources: These outputs assist tutors and parents in backing their children or students by leading them to material, developing their capabilities to tutor online or more generally increasing their capacity to back learners which are learning more independently now and in their homes rather than at in educational institutions (Reimers et al. 2020, 4).

Name	Description	Language & Cost	Skills
Vroom https://www.vroom.org/ (Reimers et al. 2020, 34)	App and platform with advice on how to combine learning with household activities such as cooking, bathing time or other chores. For nannies of children younger than 5	English, Free	Cognitive, Interpersonal and Intrapersonal Skills
Google Teach from Home https://teachfromanywhere.google/intl/en/#for-teachers (Reimers et al. 2020, 34)	The website assists teachers in making the correct decisions on how to teach from home. Either with video, without video, how to make distance learning accessible to all, how to keep learners motivated and engaged, and how to keep in contact with other tutors.	English	-
Professional Development Service for Teachers https://pdst.ie/ (Reimers et al. 2020, 31)	It comprises links to different online education platforms such as Apple, Class Dojo, and more. And it is explained how to use them in teaching. Moreover, includes lists of authentic distance learning websites, and tutorials for applying digital tools.	English	Cognitive, Interpersonal and Intrapersonal Skills

Tools: These tools assist in facilitating the teaching and learning for instance communication instruments, learning management systems or other instruments which students, teachers or parents are able to make use of to create or access educational content (Reimers et al. 2020, 4).

Name	Description	Language	Cost
ClassDojo https://www.classdojo.com/de-de/?redirect=true (Reimers et al. 2020, 38)	ClassDojo is a free platform for communication which links tutors, learners, and parents to manage classroom communities. Tutors can motivate learners for their accomplishments and skills. Learners can present and contribute their learning by adding photos or videos to their own portfolio.	Translates messages into 30 languages instantly.	Free
Microsoft OneNote https://www.microsoft.com/en-us/microsoft-365/onenote/digital-note-taking-app?rtc=1 (Reimers et al. 2020, 38)	Microsoft OneNote is a digital note-taking app. Contents can be classified into workbooks, pages and sections. Users can receive and contribute notes, drawings and commentaries. Notes can be taken directly on the OneNote surface.	Multi-lingual	Included in Microsoft 360 package
Zoom https://www.zoom.us/ (Reimers et al. 2020, 39)	Zoom is a tool for online communications with a cloud platform for video and audio conferencing, chat, and webinars. It can be used via mobile phone, laptop or tablet. Features such as chat, screen share, annotate, whiteboard, polling, breakout rooms, raising the hand, and many more are available.	English, Chinese (Simplified and Traditional), French, German, Japanese, Portuguese, Russian, Spanish, Korean.	Basic Version is free (meetings can last for 40 minutes only)

Moodle https://moodle.org/ (Reimers et al. 2020, 40)	Moodle is a platform made for personalised online learning surroundings. It is for free and applies an open-source software. Moodle assists the requirements of small classes and large organisations. In terms of skills Moodle can be applied to help cognitive and socio-emotional skills.	Available in more than 120 languages.	Free
Quizlet https://quizlet.com/de (Reimers et al. 2020, 42)	Quizlet is a tool for learners to create their own flashcards. And they can access other flashcards.	English	Free

More fragile and vulnerable students (pupils with social, cultural and linguistic disadvantage)

European Scenario concerning fragile and vulnerable students

This global crisis has amplified and reinforced the digital, social, emotional, cultural and economic inequalities that many VET students and their families were already facing. The provision of individualised and psychological support may prevent students' disengagement from learning.

In Romania, within the partnership between the Ministry of Education and the Proacta EDU Association, the first line of psychological counselling on COVID-19 was launched, free of charge, for teachers, parents and students; it is the so-called Ambassador for Community.

Mentoring work stands out also in Spain, within the second chance schools9, especially with the youngest students (16 to 21 years old), through individualised follow-ups carried out by telephone, in which academic, health and personal doubts are resolved. The communication and coordination with the social worker and among teachers take place on a daily basis. Social networks already established and used regularly since the beginning of the course, play an important role with the youngest public, allowing them to remain in contact and to energise the content.

In Portugal schools have received guidelines for the implementation of distance education to students with special education needs, which include measures to support parents and students, promoting learning and wellbeing.

For vulnerable individuals who do not have access to a social worker, Families First, the national early intervention programme in Wales, aims to improve outcomes for children and young people (including effective participation in education and training) by emphasising prevention and by supporting whole families rather than individuals.

In Germany, the so-called "transition coaching" supports students at school in acquiring general secondary education or to complete (assisted) VET or another form of upper-secondary education. At general secondary schools, the transition coaches (mostly social pedagogues) hold regular meetings and appointments with final class students at risk of dropout or having difficulties managing the transition. In cooperation with the individual student, the coach prepares a transition plan.

Cedefop, (2020). Digital gap during COVID-19 for VET learners at risk in Europe. Synthesis report on seven countries based on preliminary information provided by Cedefop's Network of Ambassadors tackling early leaving from VET.

Policy options to support vulnerable students during school re-opening

- Adopting a holistic approach to education:
  - Implementing initiatives to **improve learning, social and emotional need** of students with a **focus on vulnerable groups**;
  - Considering **all relevant stakeholders (formal and non-formal) for inclusion** in policy design and implementation;
  - Ensuring **compliance with anti-discrimination and human rights policies and laws**. At the school-level, encouraging **anti-bullying campaigns** and addressing issues related to the stigmatisation of marginalised groups.
- Facilitating partnerships between different stakeholders to respond to vulnerable students' needs, which implies ensuring:
  - **Co-operation between relevant authorities and agencies**: Designing re-opening strategies jointly for a comprehensive approach, involving inter-ministerial delegations who can be an efficient intermediary between authorities and actors in the field;
  - **Co-operation between authorities and education trade unions**: Involving unions in discussion on school re-opening strategies, listening to unions' guidelines and views on inclusive education;
  - **Co-operation between authorities and civil society**: Recognising NGOs and grass-root associations as essential partners to reach vulnerable groups, supporting them financially during crises;
  - A **whole-school and whole-community approach**: Facilitating communication and strong partnerships between schools and communities (e.g. through guidelines), involving families and communities in the design and implementation of initiatives.
- Encouraging return to school:
  - **Limit absenteeism by introducing a system of incentives** to promote attendance, in particular for more vulnerable student (e.g. school meals subsidies, free and safe transportation).
- Addressing learning gaps: Supporting schools in helping students catch up on missed learning, especially those from vulnerable backgrounds through:
  - **Catch-up strategies**: summer schools, accelerated programmes and other practices with a focus on vulnerable student groups. Ensuring good **communication as well as the accessibility and quality** of these programmes;
  - **Universal design to curricula** that fulfil each learner's potential;

  - Supporting **non-formal learning activities**;
  - At the school-level, encouraging **after-school tutoring and peer-to-peer coaching** initiatives as well as **special after-school study classes**.
- Ensuring that the well-being of students remains a priority:
  - Paying **special attention to socio-emotional well-being**: Providing teachers with guidelines and resources to support vulnerable students' well-being;
  - Supporting the **mental health of students**: Developing guidelines for parents, supporting schools in increasing their share of non-educational staff (e.g. psychologists);
  - Providing **equitable and inclusive access to extra services** for vulnerable students: Distributing free school meals and hygiene kits, offering extra grants and financial support to vulnerable students, considering student loans waivers and designing cash transfers programmes.
- Ensuring support by and to teachers and school leaders:
  - Facilitating **ongoing communication with teachers and school leaders** to better identify vulnerable students' challenges and needs;
  - Prioritising the **well-being of educational staff**.
- Prioritising equity and inclusion in re-opening strategies with hybrid models and intermittent school closures
  - **Further improving the access to and quality of distance learning** for all in case of intermittent school closures;
  - Placing **vulnerable students as a priority in hybrid model strategies** (e.g. by giving them priority for in-person school attendance while other students only attend core subjects).

OECD (2020) *The impact of COVID-19 on student equity and inclusion: supporting vulnerable students during school closures and school re-openings*

Italian VET scenario concerning fragile and vulnerable students

Abnormal school dropout is part of the structural delays in our country and significantly affects higher education levels. Those who drop out will develop a gap that will make it difficult to access the knowledge-driven professions of the future (ie those with the fastest growth, based on knowledge), generating a particularly negative effect on the ability of those young people to enter the labor market. To address the scourge of early leaver from education and training, the Europe 2020 Strategy suggested that early leaver from education and training (ELETs) did not exceed the 10% threshold, but at the end of 2019 this target had not yet been reached by our country. Furthermore, if in Europe youth unemployment increases from 15% before the pandemic (August 2019) to 18% after a year, in Italy it reaches even more worrying increases, going over 32% of 15-29 year-olds. We cannot be surprised by this trend if the INPS (National Institute for Social Security)

Observatory also declares that the recruitments activated by private employers in the first seven months of 2020 decreased by 38%. But if youth unemployment increases, it is necessary to focus more on training experiences on work. Indeed, it is in the situations in which the dual model has been adopted for the longest time that youth unemployment moves within more acceptable limits (Germany 5% and the Province of Bolzano 12%). Eurostat data before the pandemic, give us for 2019 an Italy with 22% of young people between 15 and 29 years with a qualification "at the most lower secondary" who do not work and do not study. The number of these "NEETs" (Not in Education, Employment or Training) gives our country an unenviable record within the Union, giving us a percentage value of about 7 points above the European average. This is a marginality that can be found above all among women (24% compared to 20% of males), among foreigners (32% compared to 20% of resident Italians) and among young Southerners (32% against 14% in the North and 16% of Central Italy).

Precisely against dropouts, unemployment and Neet, Vocational Training promotes "cohesion" and does so when it integrates with an inclusive approach components that are more difficult to assimilate by the other actors of our educational system: it motivates young people with fragile and interrupted school experiences, integrates children of first and second generation immigrants and welcomes disabled students, removing the barriers that prevent them from accessing normal citizenship. Firstly, it should be noted that the Vocational Education and Training system includes at least half of those enrolled who have an interrupted and problematic school career as a result of failures. This occurs despite the growing choice of VET on the part of non-repeating 14-year-olds upon leaving middle school, meaning that it is a real vocational option and not a makeshift option. In accredited training institutions, 14-year-olds are just under the average (45.2%). The schooling rate of students with non-Italian citizenship decreases by a third in adolescence, denying these young people a complete training for insertion into the world of work. The delay, in addition to the socio-economic conditions of departure, is attributable to non-admissions and repetitions along the path as well as to placements in classes below those corresponding to the age. In this difficult situation, VET is trying to lead its students towards a qualification as the first trait d'union for work, citizenship and integration.

According to the Miur, the VET system has the highest percentage of pupils with non-Italian citizenship of the entire second cycle of the education and training system. The presence of students of migratory origin attending secondary school reaches 7.3% of the total number of students, while the average of students with non-Italian citizenship present in the professional institutes stands at 12.5%. Among the students with non-Italian citizenship, with only the high school leaving certificate, 25.5% (18.4% among Italians) enroll in the regional courses of Vocational Education and Training and another 25.6% (27,6% among Italians) to professional institutes. As will be seen below, the outcomes leaving the courses show an employment rate 3 years after qualification even better for young people of foreign origin than for Italians. Therefore, there is no doubt about the inclusiveness of VET (and particularly that of Vocational Training Centers) for the weaker group of foreign students.

We find a wide and deep-rooted inclusiveness also for children with disabilities. The entire second cycle of the education and training system welcomes an increasing number of pupils with disabilities despite the reduction in the overall population over the years, but the highest values are those of the VET of accredited training institutions. For the 2017/18 school year, pupils with disability certification attending vocational education, had a significant increase from the previous year, going from 6.1% to 6.6%, with a higher component of pupils with disabilities intellectual compared to high schools. Three out of seven students with a migrant background are socio-economically disadvantaged. Even if overall, and above all in subsidiarity, the offer of VET is aimed at a predominantly male user, VET qualified people count on a prevalent female presence in some types: operators in promotion and reception services (56.3%), secretarial administrative operators (56.8%) and sales service operators (57.2%). The OECD INVALSI data confirm, as will be seen below, an increase in the training effectiveness acquired in the Training Centers for female students, both over time in relation to previous editions and in relation to the performance of other channels of the second Cycle in the Pisa 2018 survey (Zagardo, 2020, pp. 8-10)

In recent months, there has been a lot of talk about school-space, the reorganization of furnishings, and distancing in the classroom. The strongest pedagogical debate has, by a long time, taught how learning spaces have a formative meaning in themselves and their reorganization cannot ignore the implications on the relationships they supports. To this must perhaps now be added the awareness of the consistency of virtual space. The platforms represent effective, albeit intangible, learning spaces and are a concrete extension of the school-space. For this reason, to serve as an immediate example, the introduction of platforms and the use of content apps must be carefully organized and managed by the Training Centers.

If social media, WhatsApp and other tools have simultaneously allowed close contact with families in recent months, a good practice that emerged is to collect all the contents/tasks/deliveries in one place, to facilitate communication with the student/the family, favoring the exchange in a secure way on one or two channels. Within this duplicated learning space, in which virtual space and real space interpenetrate without being superimposable, the players of the educational ecosystem move. And yet, it remains a fact that it does not

enter the virtual and that, moreover, it struggles to reconcile with the logic of social distancing and partial covering of the face behind a mask that significantly alters the facial expressions. It is the fact that, as Jean-Luc Nancy would say, we do not have a body: we are a body.

And we learn the world with our body. Without that precognitive knowledge that passes through the body, nothing for us would be comprehensible, intelligible, endowed with meaning. In other words, corporeality is an important element of well-being and learning. A conscious use of the DAD and the virtual learning space requires to watch over this aspect: it is not just a matter of thinking in terms of cognitive skills, meta cognitive skills and life skills, but to look at students in a holistic way as "emotional bodies". This is even more true at a time when corporeality is a problem, contact is stigmatized as a contamination, social distancing has become the imperative and the use of masks a necessity. The implications of these aspects on the level of self-perception and the well-being of all the players in the educational ecosystem are considerable. And therefore the implications on the level of educational success are considerable.

More evidently involved are the students with SEN, for whom the difficulty (relational and cognitive) experienced with the DAD alone was reported; to this some institutes have responded with positive experiences of help desks and personalized training even at a distance, and the Guidelines encourage them to keep these students in attendance as a matter of priority. Much of learning, however, passes in all cases precisely through the energy of the bodies, the teacher and the students, for being in the same room, sharing physical and immediate proximity. It therefore remains central, in the face of the risk of a new confinement, to make the most of all the moments in presence to build a capital of relationship and proximity (especially with the new incoming classes), and to compensate with educational and psychological desks, small group meetings with tutors, virtual small group meetings, peer comparison, creative activities. Waiting for bodies to relate again in the physicality of real space. (Faitini, 2021)

Finnish VET scenario concerning fragile and vulnerable students

Almost the entire Finnish education system switched to distance learning, based on the use of digital tools, due to the coronavirus epidemic. The exceptional teaching arrangements have affected the equality and equity of learning in many ways. New methods of teaching and student guidance have been developed at all levels of education. However, many learners have not had the capabilities required for distance learning, and support for learning has been inadequate. The situation has had an impact on learners' wellbeing and their need for support for learning. It has brought to light the importance of learning capabilities in the changing learning environments and challenged both national steering and the management of educational institutions. The need for support has increased the most among those who already have challenges with learning and progressing in their studies.

In the future, digital pedagogy should be developed at all levels of education, ensuring that the needs of different learners, including special groups and those facing difficult circumstances, are addressed.

The Finnish Education Evaluation Centre FINEEC carried out an evaluation investigating the impact of the emergency conditions on equal and equitable preconditions for learning at different levels of education. The evaluation was carried out between 1 March 2020 and 31 January 2021. The purpose of the evaluation was to provide information for assessing the impacts of the exceptional teaching arrangements. The aim was to also identify any good practises or viable operating models created in the emergency conditions, following the principles of enhancement-led evaluation. The data for the evaluation was collected from basic and upper secondary education providers, higher education institutions, principals, teaching and guidance staff, and pupils and students during the spring and autumn of 2020. In addition, statistics related to the progress of studies in higher education were used in the evaluation.

During Spring of 2020 according to the governments key restrictions on the obligation to organize during the spring of 2020, VET providers were obliged to provide teaching and training only to the extent that it was possible to implement it in learning environments other than the educational institution. The organizers of the training were obliged to provide special support and demanding special support, as well as the assistance services required for the study only to the extent and in such implementation methods as were possible in the circumstances. The training providers were obliged to arrange the skills demonstrations only to the extent that they were feasible.

The teaching and tutoring staff as well as the management of the organizers were of particular concern to those students whose study capacity was insufficient for distance learning and those whose problems had accumulated during the spring. They should be provided with enhanced guidance and support for their studies and, if necessary, directed to study care services. Targeted support is also needed by students whose language skills have made it difficult to participate in distance learning.

Distance learning causes learning difficulties for some students, this requires organizing support measures right from the beginning of the fall semester. Some students need enhanced support in continuing their studies in the fall, training in entering school, and study readiness. Further education should be provided for students in need of special support. Teaching resources and time should be directed to additional teaching. (KARVI report: Impact of teaching arrangements during pandemic concerning equality and equity in Finnish education. Part III: Summary and recommendations of the national evaluation, 2021)

Support measures	%
Enhanced guidance and support for those at risk of dropping out and those in need of support	23
The need for contact teaching and small group work	19
Interaction, mapping the situation of students and personal guidance	14
Ensuring adequate tools, developing digital and learning skills, and supporting the use of digital tools and learning environments for all students	14
Ensuring adequate teacher and support resources to ensure the quality of teaching	11
Development of management, working methods and tools	11
Learning in working life, more flexible studies and completion opportunities	8
Total	100

7 Views of the Finnish management and teaching and guidance staff on the support measures needed in the coming academic year (2352 answers)

According to the KARVI report, securing adequate tools for students and developing students' digital and study skills were also considered important. This was related, on the one hand, to the uncertainty about how long the corona epidemic would last and, on the other hand, to the idea that hybrid teaching would increase in the future, with different learning environments becoming more closely integrated. It was also considered important to develop the online pedagogical and digital skills of the teaching staff and to introduce the new staff.

Eija Patrikainen and Risto Tuomainen conducted a survey for teachers of preparatory education for work and independent living TELMA in 51 education institutions focusing on their experiences on remote teaching during Covid-pandemics. Acronyme TELMA is referring to the Finnish name of the program and Cedefop 2019, 26 defines it like this: "Preparatory education and training for work and independent living (TELMA), is a form of special needs education intended for learners who require special support because of illness or injury to achieve their personal goals and to develop their skills and competences. The aim of the programme is generally to prepare a learning plan and help find a job to earn a living, leading to a good and independent life, also in terms of housing and rehabilitation. An individual education plan is prepared for each learner. Rehabilitation is promoted through multidisciplinary collaboration together with different stakeholder groups, the student's immediate network and rehabilitation service providers."

Patrikainen E. and Tuomainen R. 2020. Selvitys etäopetuksesta TELMA-koulutuksessa Koronapandemian aikana. In Hakala, Eskola, Mäkinen 2020. Puheenvuoroja vaativasta erityisestä tuesta. Jyväskylän ammattikorkeakoulun julkaisuja 293. pp. 138-149. http://urn.fi/URN:ISBN:978-951-830-592-0

Austrian VET scenario concerning fragile and vulnerable students

In Austria there are some possibilities for kids with special needs in education (Sergon 2021).

Integrated teaching education allow students with special needs an opportunity to attain a shared learning experience. The children can obtain integrated teaching in a Kindergarten, Primary School, Middle School, Academic Secondary School Lower Level, Pre-Vocational School (called Polytechnische Schule) and the Home Economics School (OeAD-GmbH 2021).

If it is discovered that a student needs special support in education, on the one hand he or she can get additional assistance together with other pupils. On the other hand it is also possible to place the student in a special school or education centre (Sergon 2021).

There they are taught in integration classes, single integration settings or in cooperative classes. At the national more than 30% of all pupils with special needs are educated in an isolated setting. In areas where integration plays a huge role, vulnerable students with special needs are placed in mainstream schools and following the common class (Buchner and Proyer 2019).

Recommendations

Recommendations for the pedagogical approaches for special needs students

Derived from this paper and further discussions within the pedagogical expert community, the group suggests the following recommendations for use of this project's next phase:

Pedagogical method:: authentic learning

Group finds that the method of authentic learning is best suited for the target group of vulnerable students. According to Herrington, there are certain aspects of learning to be considered authentic:

Herrington's 9 Principles of Authentic Learning
- Provide an authentic context that reflects the way the knowledge will be used in real life
- Provide authentic tasks and activities
- Provide access to expert performances
- Provide multiple roles and perspectives
- Support collaborative construction of knowledge
- Promote reflection to enable abstractions to be formed
- Promote articulation to enable tacit knowledge to be made explicit
- Provide coaching and scaffolding
- Provide for authentic assessment of learning.

Herrington, J., Parker, J. & Boase-Jelinek, D. (2014). Connected authentic learning: Reflection and intentional learning. Australian Journal of Education, 58(1), pp. 23–35.

Principles of Authentic Learning (adapted from Herrington 2006)

The role of the teacher has changed from a knowledge distributor to a facilitator and enabler of learning and a designer of learning environments. The background thinking of participatory pedagogy requires very different activities in studying than is traditionally used. Instead of doing individual and detached tasks and learning the contents by heart, the broader issues, phenomena and problems arising from the teacher's work are emphasized. The focus is on action, building common knowledge and expertise, and finding different alternative perspectives. Participatory pedagogy is a broad approach that combines different pedagogical strategies. It enables the use of a wide range of activating, exploratory and problem-based pedagogical models and methods. So it is not a separate method. It is central to participatory pedagogy supporting the student's own inclusion and agency understanding and exploiting the importance of peer groups taking into account the student's own starting points and assumption acceptance of the ubiquity of learning continuous use of reflection and evaluation.

The basic idea of authentic learning is that teacher students can work on topics, questions, and problems that support the development and strengthening of an expert way of working. The activities emphasize proximity to working life so that teacher students have the opportunity to look at the phenomena of the work of a vocational teacher in a diverse way and as part of teachers' professional networks. The methods used in professional teacher education enable community and collaborative work. Learning assignments are open in such a way that they allow for multidisciplinary and multidisciplinary review. Instead of answering individual questions, teacher students participate in the final formulation of learning tasks. In addition to our own experiences, expert knowledge and communities are used to find answers. Information The versatile use of communication technology as well as social media is an essential part of collaboration and knowledge creation. In participatory pedagogy, assessment is not just about the outcome (assessment of what has been learned), but it takes place all the time as part of action processes. Assessment is about supporting learning and its basic function is to look to the future (assessment to support learning). Mutual assessment, which emphasizes the learner's own activity, includes self-, peer- and working-life assessment. Various networks of experts are also used to support the evaluation. A key part of a teacher's work now and in the future is the evaluation of different operating environments and practices. In this case, assessment is understood mainly as a way of thinking or a philosophy of action that is not related solely to the student's actions. The purpose of evaluation is to research, develop and change activities (evaluation as learning).

Example of authentic learning

Authentic context:	Local history of World War 2
Authentic task:	"Search the story of a real local soldier whose name is taken from a virtual war archives. Create an Adobe Spark Page with images, maps and stories"
Access to experts:	Contact local war historians and the family of the soldier and in rare cases today, the soldier himself.
Multiple perspectives:	Compare the soldier's stody with actual history writing, historians from the enemy's side and propaganda.

Collaborative construction:	Class creates the Adobe Spark Page by having zoom-meetings.
Reflection:	Discussion after short period of individual refle, what has been learned.
Articulation:	Key terms (battalion, trench) are addressed and clarified as a class glossary
Coaching and scaffolding:	Teacher moves around teams and assists in finding relevant information.
Authentic assessment:	Teacher assesses students throughout the tasks by talking and making suggestions.

Furthermore, the concept of learning by doing supports the kinetic learner type often present in vocational education and training. When the aimed subjects and learning methods and tasks are authentic, closer to the realities of the learners and when learning is performed by doing it has a better potential to increase learners motivation.

Pedagogical method: problem-based learning (PBL)

Problem-based learning (PBL) is a student-centered pedagogy in which the aim is to learn about a subject through solving a chosen problem or a challenge. The PBL allows for the development of other desirable skills and attributes. This includes gaining of competencies and knowledge, improved group collaboration and communication. Typically PBL works well while working in small groups of learners. In problem-based learning, students solve problems derived for instance from working life, instead of reading books. Information read and researched will be applied in practice and learning in this way can be more relevant.

Advantages of PBL

According to Barrett, there are many advantages of PBL. It is student-focused, which allows for active learning and better understanding and retention of knowledge. It also helps to develop life skills that are applicable to many domains. It can be used to enhance content knowledge while simultaneously fostering the development of communication, problem-solving, critical thinking, collaboration, and self-directed learning skills. PBL may position students to optimally function using real-world experiences. By harnessing collective group intellect, differing perspectives may offer different perceptions and solutions to a problem. Following are the advantages and limitations of problem-based learning.

Enhancement of student-centred learning
Antapohl and Herzig state that in problem-based learning the students are actively involved and they often enjoy this method (Antepohl, W; Herzig, S, pp. 106–113). It seems to support active learning and development of lifelong learning skills. It encourages self-directed learning by confronting students with problems and stimulates the development of deep learning . Like in authentic learning, problem-based learning focuses on engaging students in finding solutions to real life situations.

Problem-based learning enriches the teacher-student relationship
Since the students are self-motivated, good teamwork, self-directed learning etc. the teachers who have worked in both traditional and project based learning formats prefer project based learning (Vernon, D. T.)

Pedagogical method: Collaborative learning

Collaborative learning is simply a situation in which two or more people learn or attempt to learn something together. Unlike in individual learning, collaborative learning utilize groups resources and skills, in for example asking one another for information. Learning in groups enables the use of dialogue and emotional guidance. The role of the teacher or instructor is to facilitate learning and maintain the groups motivation level.

Pedagogical method: Flipped classroom

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.
While often defined simplistically as "school work at home and home work at school," Flipped Learning is an approach that allows teachers to implement a methodology, or various methodologies, in their classrooms. (Flipped Learning Network Hub)

Alongside the aforementioned methods, the group also suggests that, when applicaple, the use of different simulations should also be taken into consideration.

Recommendations for the tools

Recommended fre tools that can be used autonomously with examples

Video
Screencast-o-matic
Flipgrid

Game-like tools
Socrative/Kahoot

Social media like educational tools (examples)
Thinglink
Adobe Spark

Participatory tools
Flinga
Mentimeter
Padlet

MindMaps
CMAP

Videoconferencing tools
Zoom

Learning Management System
Google Classroom

Social media
microblogs (Twitter)
video platform (YouTube)
image platforms (Instagram)
WhatsApp
TikTok

Recommendations for the promotion of equality and equity

• Identification of the learners' needs and the delivery of individual support should be made possible at all levels of education. Operating models that support students' wellbeing and reduce their mental strain should be developed. Higher education institutions should identify the students who belong to special groups and direct the support and guidance services according to their needs.
• Learning capabilities and self-regulation skills of the learners should be recognised and developed at all levels of education. Building the self-regulation and study capabilities prepares the learners not only for similar emergency conditions but also for the increasingly common hybrid teaching which combines contact and online teaching at different levels of education.
• The digital and pedagogical competences of teaching and guidance staff should be built at all levels of education, and equal access to devices and software must be ensured. The development of digital teaching solutions and learning materials carried out during the emergency conditions forms the basis for their further development.
• More attention should be paid to the needs of different learners and special groups in pedagogical development. The emergency conditions have shown that, because of the diversification of learning environments, more attention should be paid especially to interaction and support for learning.
• National steering should be systematic, concrete and timely. According to education and training providers and principals, the provision of information and instructions at the national level was only moderately successful during the emergency conditions.
• In local-level management, more attention should also be paid to the coping and wellbeing of the personnel and to supporting the work of the teaching and guidance staff. Both monitoring and evaluation may help the management to take the acute measures demanded by the emergency conditions.
(Goman, Huusko, Isoaho, Lehikko, Metsämuuronen, Rumpu, Seppälä, Venäläinen & Åkerlund 2021. Impacts of the exceptional teaching arrangements on the realisation of equality and equity at different levels of education. – Part III of the evaluation project: Summary and recommendations of the national evaluation, pp.11-13)

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