

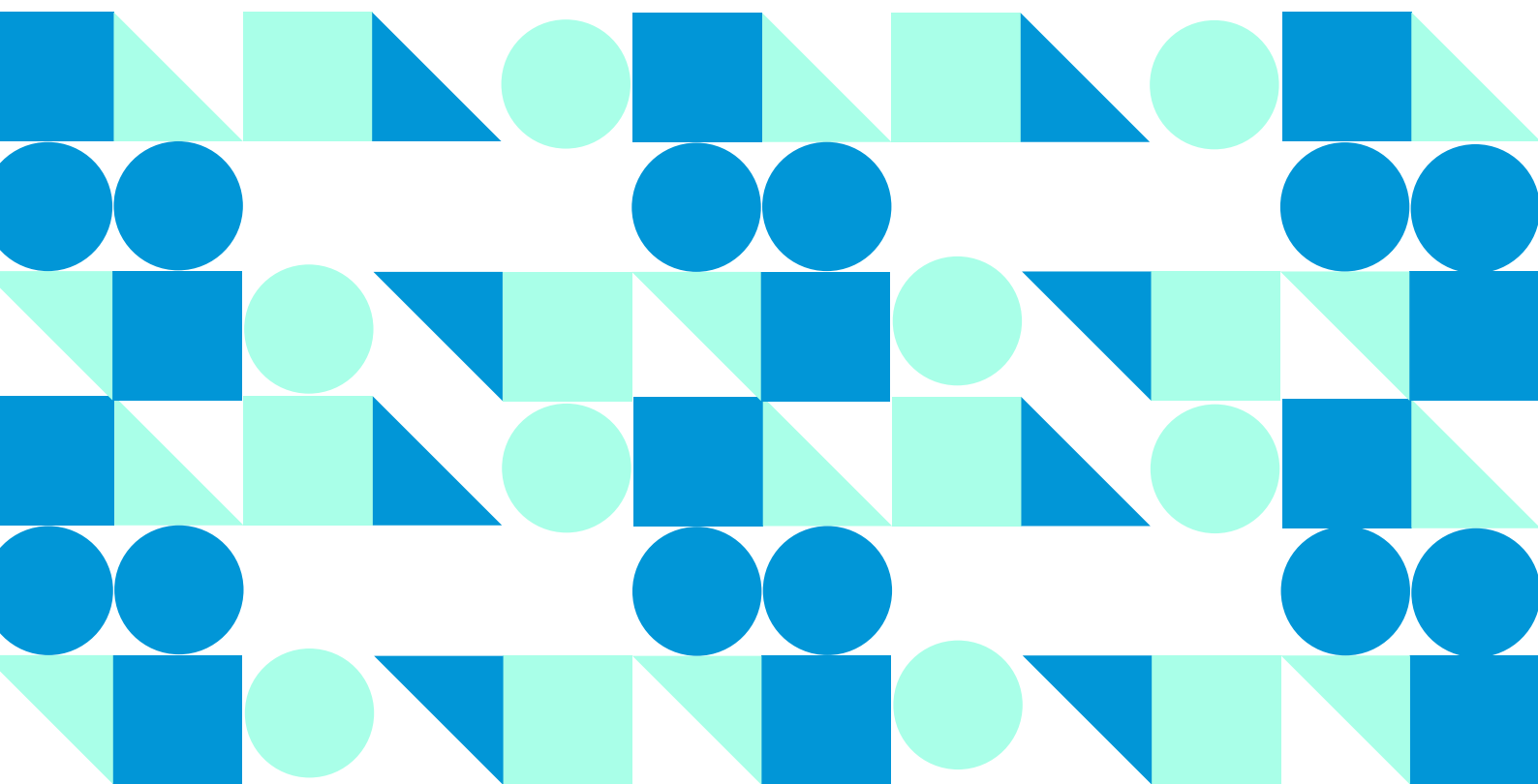


Research paper

Teachers and trainers in a changing world

Building up competences for inclusive,
green and digitalised vocational
education and training (VET)

Synthesis report





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The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States. Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

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Foreword

The European Year of Youth is focusing on young people's voices in helping design a peaceful, greener, digital and inclusive continent. Cedefop work highlights the importance of teachers' and trainers' professional development in enabling European young citizens to thrive through vocational education and training.

This report was prepared by Cedefop's [VET for youth team](#) within the framework of the project on [Teachers' and trainers' professional development](#). Building on the findings of the Cedefop [ReferNet](#) thematic perspectives *VET teachers and trainers in a changing world*, available for 29 countries (EU Member States plus Norway and Iceland), the purpose of this synthesis report is to identify recent trends and policy developments in Europe on the initial and continuous professional development of VET teachers and trainers.

Teachers and trainers are at the frontline of VET delivery. It is essential that they (re)skill and upskill towards future-oriented competences, which they can then pass on to students. Following the COVID-19 pandemic and the outbreak of war in Ukraine, the implications of global disruptions for the future of teaching and learning in VET are yet to be fully unpacked, understood and transformed into an actionable framework for European policy-makers. While the EU is not yet recovered from the shock that the pandemic brought to all levels and all types of education and training, the large wave of refugees in Europe fleeing war-torn Ukraine faces teachers and trainers with an unprecedented new challenge.

This synthesis report aims to help policy-makers, social partners, scholars and VET practitioners better understand the existing different types of VET teachers and trainers in Europe, their evolving and complex roles, their qualifications and entry requirements to the profession, as well as the challenges they face and their opportunities for continuous professional development. The report concludes with policy reflections about how to ensure VET teaching and training staff have access to quality lifelong learning. We trust this will stimulate relevant discussions and further research on the effectiveness and efficiency of current policies implemented in European countries.

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Executive summary

Teachers and trainers as a policy focus for two decades

The need for investment and for a systematic and holistic approach to VET teachers' and trainers' professional development has been central to the EU policy agenda since the beginning of the enhanced cooperation in VET in 2002. The EU policy discourse recognises that VET teachers and trainers have a crucial role in preparing individuals of all backgrounds and ages to live, learn and work in the world of today, as well as in creating and leading future changes.

Teachers' and trainers' multiple roles

Teaching and training staff in VET need to be supported in developing skills and provided with tools to master new technologies, to deliver online and/or blended learning, to work in multicultural environments, to support the smooth integration of refugees, to identify promptly learners at risk of dropping out, support early leavers to reintegrate into education and training, and understand that the changing labour market needs to empower and equip students with skills for the future.

Cedefop: key EU player in VET teachers and trainer professional development

As early as 1998, Cedefop established the TTnet network, as a pan-European forum for key players and decision-makers involved in the training and professional development of vocational teachers and trainers; it was active up to 2011. Then, Cedefop and the European Commission jointly coordinated the ET 2020 Thematic working group on professional development of trainers in VET, which integrated the activities of TTNet. Today, Cedefop contributes to the work of the newly established 2030 Thematic working group of schools: Pathways to school success, and the Working group on digital education: Learning, teaching and assessment (DELTA). Both of these concern teachers' and trainers' professional development. Cedefop conducts robust research to inform policy-making, promotes peer learning through policy learning forums, and offers a rich platform of digital resources for policy-makers and VET practitioners. The Agency's vision is to launch a pan-European survey of school principals, teachers, in-company trainers and learners

to collect the views of key actors in initial VET and bring new insights about the professional needs and opportunities of teaching and training professionals.

National challenges and policy responses

The main national challenges raised by the ReferNet thematic perspectives collection include an ageing VET teaching population, shortage of VET teachers, especially young ones, low attractiveness of VET in general and VET teaching in particular, weak linking of VET programmes with the labour market and long-term COVID-19 implications related to digital and inclusive VET. National policy responses are aligned with the challenges faced by countries. They are mainly targeted to continuous professional development (CPD) quality and flexibility, upgrading of apprenticeship and work-based learning, improvement of VET teachers' digital skills, key competences and pedagogical preparedness, and increased attractiveness of the VET teaching profession. Making VET inclusive by supporting learners at risk of early leaving and (re)integrating refugees, early leavers and NEETs in VET is also a high priority in the national policy agendas.

Types of teaching and training professionals

There are various ways that initial VET is defined in the European countries, putting emphasis on different aspects, such as education level or qualifications. Similarly, there are different kinds of teaching and training professionals, distinguished by, for example, the subject they teach, their role or whether they provide theoretical or practical training. There are also VET school distinctions, for example according to specialisation or education level. However, the types of professionals employed are usually independent of the VET school types. An emerging 'hybrid' type of teacher and trainer, working in parallel in VET institutions and companies, exists in half of EU+ countries, though there are almost no regulations, requirements, specific CPD nor data available yet for them.

Initial education and training for VET teachers and trainers

In most European countries, VET teachers' and trainers' initial professional development (IPD) takes place within the framework of their higher education or tertiary level studies, as part of a bachelor and/or master degree programme, often with a dual qualification: subject knowledge and teaching qualification. Specific

initial training provision programmes are available in some European countries. Similarly, VET professionals working in work-based settings are usually reflected in legislation, strategic documents or implementation provisions; fewer countries have requirements for qualifications and/or competences.

Teaching and training professionals in school-based settings

In all EU+ countries (EU-27 plus Iceland and Norway), there are pedagogical and/or teaching qualification requirements for all types of VET teachers, which may differ by type of subject taught (teachers of general subjects versus vocational theoretical or practical subjects) as well as by level of education (lower versus upper secondary education). When it comes to teaching vocational theoretical and/or practical subjects, VET teachers are also required to have a degree or professional certificate in a specific field of studies. The pedagogical component often accounts for their initial professional development (IPD), although more specific IPD settings are available in several countries. CPD is a high priority for almost all EU+ countries. Areas covered by CPD focus on three main types of skills: technical or subject-specific; pedagogical/teaching/didactic; and transversal/cross-cutting.

Teaching and training professionals in work-based settings

There are many ways that teaching and training professionals in work-based settings are defined. Reference is frequently made to the place of work, the type of placement and their tasks, duties and responsibilities. While there are legislative acts, strategic documents or implementation provisions in most EU+ countries, this is less often the case for specific requirements for qualifications and/or competences; only in a minority of countries are there national qualifications or competences profiles. There are specific provisions for CPD only in around one-third of European countries. Needs analyses are often not conducted, and fewer countries still collect data on numbers, qualifications, and CPD of training professionals in work-based settings. The modes of CPD provision vary greatly and include, among others, training programmes, seminars and workshops. Similarly, entities responsible for CPD provision are diverse, including VET schools, chambers of commerce, educational (VET) agencies or companies.

Partnerships between schools and companies

There are various projects aimed at bringing teachers into companies so that they can have a 'real world' experience and update their knowledge to the newest level. Different networks and councils are created to connect the different actors. Courses and training provided to teachers in different places and settings are also frequent. Specific formal links between schools and companies usually take the form of agreements or contracts on a bilateral or trilateral level. Exchanges between trainers and schools are normally at the discretion of both parties. However, there is a variety of ways of coordinating, which may also be more formalised in the form of agreements or contracts.

Improving digital skills

School and policy initiatives on digital skills and remote and blended teaching and learning have substantially increased over recent years, especially in response to the COVID-19 pandemic. They can be divided into the technical part (tools), theoretical part (frameworks) and support measures. Tools include e-learning platforms, electronic library or self-assessment tools. These are for practical applications, while many countries have also developed or are using various frameworks and concepts. There is also a wide variety of support measures, including digital strategies, plans and guidelines, vocational qualifications and standards, as well as CPD programmes for teachers.

Developing green skills

European countries have relatively few initiatives on how to prepare VET teachers and trainers for the integration of the green dimension in VET but many in the broader area of sustainable development in VET. They have devised and implemented (national) education plans and programmes that explicitly integrate green skills in the national VET strategy. Examples are the creation of specific 'green' VET schools and close cooperation between VET schools and ecological education centres. VET programmes, qualifications and curricula have also been adapted to include green skills. All of this is complemented by new CPD activities targeting teachers' competences to teach green skills. Many projects on sustainable development and skills have been created and various tools, websites and supporting materials promote sustainable development in VET.

Promoting inclusiveness

Inclusive education is a main attribute of EU+ countries' policies and practices. They strive for inclusiveness in education and training by placing a special focus on several thematic aspects, reflecting its multifaceted character. Topics included in their policies and practices are teacher training to identify learners at risk of early leaving and prevent early leaving; psychosocial support, guidance and counselling; reintegration of NEETs, refugees and migrants, young learners with disabilities and special educational needs in initial VET; alternative pathways and second chance measures for early leavers and NEETs; linking VET programmes with the labour market through dual education and apprenticeships; and teacher and trainer cooperation and networking.

Quality and accessibility to CPD provision

This report shows that there is potential to improve quality, diversity and accessibility in the provision of IVET teachers and trainer CPD, using needs analyses. These are conducted in the school-based VET systems in almost all EU+ countries, but only in a few countries for trainers employed in work-based settings. In both cases, few countries link them to evaluation or appraisal as part of the entire CPD process. This is particularly important as VET systems and types of teachers and trainers are diverse and so needs may differ significantly within and among countries. A (self-) evaluation component could contribute to the design of tailor-made CPD programmes, better responding to the needs expressed by teachers and trainers.

CPD evaluation and monitoring

Data collection and analysis present a major opportunity for improvements in teachers and trainer professional development. There is a lack of data on VET teachers and trainers and CPD provision and demand, particularly for work-based settings and hybrid forms of training provision. Work-based learning seems still to be a black-box in many countries that requires further data for analysis, and the data that are available at the regional or national level in one country are not necessarily comparable to those of other countries, complicating comparative analyses. National surveys exist in many countries, but often more on an ad hoc basis, following current and short-term policy needs, and less on a more strategic level. Similarly, little is done on assessing the effectiveness of CPD policies and practices. Lack of systematic monitoring and impact assessment of CPD provision

impedes policy-makers in targeting their efforts on future improvements. Findings show that the satisfaction of teachers and trainers with their current work conditions and professional development opportunities appears unclear in many settings. Systematic monitoring and evaluation of CPD can lead to improved teacher competences, higher job and life satisfaction and, ultimately, better learning outcomes for students in initial VET.

CHAPTER 1.

Introduction

The exceptional circumstances of the pandemic and the most recent wave of refugees in Europe have put unprecedented challenges before teachers and trainers at all levels and in all types of education and training. Although their professional development has been put at the fore of EU policy discourse over the past decades, the actual support and opportunities VET teachers and trainers receive remains uncertain. As VET systems and arrangements for entry requirements to the teaching and training professions (qualifications, competences and past experience) differ greatly across Europe, comparative information at EU level on the initial and continuous professional development of VET teachers and trainers remains scarce.

The newly published Cedefop/ReferNet thematic perspectives aim at addressing information gaps and providing systematic national approaches to, and opportunities for, initial and continuing professional development (IPD and CPD) of VET teachers and trainers in both school- and work-based settings. The country reports provide national definitions of key terms such as teacher, in-company trainer and mentor; offer a clear picture of the teaching professionals working in initial VET (IVET), including apprenticeship schemes; and of how their professional development is organised and supported. The 29 national reports from EU+, (EU Member States plus Norway and Iceland), highlight policy and practice developments since 2015 to date, including national strategies and policies, national/regional guidelines and frameworks, as well as major initiatives supported by EU funding such as Erasmus+ and ESIF. The national reports conclude by discussing the persisting challenges VET teachers and trainers are facing to perform their complex role and how policy priorities are shaped in their country to address such challenges.

This synthesis report aims at identifying trends and common patterns across Europe on the IPD and CPD of VET teachers and trainers. At the same time it highlights the great diversity of requirements and opportunities for VET teaching and training staff, underpinned by different legislations and regulations, diverse contexts and needs.

1.1. VET teacher and trainer European policy context

The central role of VET teachers and trainers, and the need for investment, and for a systematic and holistic approach to their professional development, has been recognised in key EU policy documents since the beginning of the enhanced cooperation in VET in 2002. For two decades, it has been acknowledged in all EU policy discourse that VET teachers and trainers have a crucial role in preparing individuals of all backgrounds and ages to live, learn and work in today's world, as well as in creating and leading future changes (Box 1). The exceptional circumstances of the pandemic and the 2 million refugee students ⁽¹⁾ fleeing from the war in Ukraine have placed greater emphasis on the role of VET teachers and trainers in the policy discourse at global level.

Box 1. VET teachers and trainers in the EU policy agenda

The *Copenhagen Declaration* (Council of the European Union and European Commission, 2002) referred to giving attention to the learning needs of teachers and trainers within all forms of vocational education and training.

The *Maastricht Communiqué* (Council of the European Union and European Commission, 2004) emphasised promoting VET teachers' and trainers' continuous competence development.

The *Helsinki Communiqué* (Council of the European Union and European Commission, 2006) emphasised highly qualified teachers and trainers who undertake continuous professional development in improving the attractiveness and quality of VET

The *Bordeaux Communiqué* (Council of the European Union and European Commission, 2008) referred to increasing investment in the initial and continuing training of those involved in vocational education and training: teachers, trainers, tutors, guidance officers, and teachers' mobility from one system to another and from one country to another.

The *Bruges Communiqué* (Council of the European Union and European Commission, 2010) invited Member States to invest in and improve initial and continuing training for VET teachers and trainers by offering flexible training provision which enables them to: acquire the right set of competences, deal with the increasing heterogeneity of learners, use new learning methods, and make the most of new technologies.

The *European Parliament Resolution* of 8 June 2011 on *European cooperation in vocational education and training to support the Europe 2020 strategy* (European Parliament, 2011) asks the Member States to create better training opportunities for trainers and lay the foundations for a facilitative learning partnership, particularly at

⁽¹⁾ According to UN's International Organisation for Migration (IOM), as of May 2022, more than 14 million people are thought to have fled their homes since the war started in Ukraine. About 8 million people are displaced inside the war-torn country, while 6 million have left for neighbouring countries. From them, 2 million are school age (BBC News, 2022; IOM, 2022).

regional and local level, with a view to securing the effectiveness of vocational education and training systems, as well as the efficient and successful passing down of knowledge.

The *Riga Conclusions* (European Commission, 2015) called for systematic approaches to and opportunities for initial and CPD of VET teachers and trainers in both school and work-based settings, in order for them to fulfil their role. This includes digital skills and innovative teaching methods. Cooperation and partnerships among stakeholders are seen to support this development.

The *European framework for quality and effective apprenticeships* (Council of the European Union, 2018) stressed that teachers and trainers should be supported in updating their skills, knowledge and competences so that they can train learners using the latest teaching and training methods as well as in line with labour market needs.

The new *Council conclusions on European teachers and trainers for the future* (Council of the European Union, 2020a) adopted when education and training institutions faced extended closures due to the global pandemic, recognise teachers and trainers at all levels and in all types of education and training as an indispensable driving force for education and training and also acknowledge their commitment during the continuing COVID-19 crisis.

The *Council recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness, and resilience* (Council of the European Union, 2020b) calls for more investment in the skills and competences of teachers and trainers.

The *Osnabrück Declaration on VET* (European Commission, 2020c), as an enabler of recovery and just transitions to digital and green economies, highlights the vital need to empower VET teaching and training staff to be proactive lifelong learners in a context of rapidly changing technology and skill requirements.

The *Digital Education Action Plan 2021-27* (European Commission, 2020a) taking on board some lessons learned from the COVID-19 pandemic, sets guiding principles for making education and training systems fit for the digital age and refers to the need for staff to receive digital skills training for use in digital education.

The *European skills agenda for sustainable competitiveness, social fairness and resilience* (Council of the European Union, 2020b) sees the role of VET teachers and trainers in facilitating (digital and green) skills development from a lifelong learning perspective and aligned to labour market needs.

The *Council resolution on a strategic framework for European cooperation in education and training towards the European education area and beyond (2021-30)* (Council of the European Union, 2021) sets as strategic priority 3: Enhancing competences and motivation in the education profession.

The forthcoming *Commission proposal for a Council Recommendation on pathways to school success* (*) (European Commission, 2022b) stresses the important role VET teachers and trainers play in preventing early leaving from education and training and gives policy recommendations to the EU Member States on how to reach benchmarks by 2030 outlined in the Council Resolution (2021) for enhancing the role and professional capacity of teachers and trainers in tackling educational disadvantage and reassuring inclusion.

The forthcoming *Commission proposal for a Council recommendation on improving the provision of digital skills in education and training* (European Commission, 2022c)

supports the provision of professional development for upskilling teachers' pedagogical-content knowledge, including on informatics.

(*) Synopsis report of the public consultation activities (Danish Technological Institute and 3S, 2022).
Source: Updated and adapted from Psifidou and Pevec (2022).

The European policy framework (Box 1) documents emphasise that increased quality of VET will only be possible with well-trained and motivated teachers and trainers. It calls for investments in teachers and trainer IPD and CPD, as well as in improving their working conditions and career prospects; it invites Member States to employ tailored measures to improve teachers' and trainers' skills, key competences, resilience and wellbeing for improving the attractiveness and status of the teaching and training profession.

Quality VET and promoting vocational excellence entail a holistic learner-centred approach in which VET 'is an integrative part of skills ecosystems, contributing to regional development, innovation, and smart specialisation strategies; is part of research, education, and innovation, working closely with other education and training sectors, the scientific community, and business; enables learners to acquire both vocational and key competences through high-quality education that is supported by quality assurance, builds innovative forms of partnerships with the world of work, and is supported by the continuous professional development of teaching and training staff, innovative teaching methods, mobility and internationalisation strategies' (European Commission, 2022a). The CPD of teachers and trainers is an essential issue for Centres of Vocational Excellence (CoVE): without high-quality and innovative teaching and training, basic CoVE goals will not be achieved (European Commission, 2019b).

Quality VET also has to do with VET being accessible for all and inclusive to disadvantaged learners. What is good and efficient practice for learners with special educational needs (SEN) and disabilities in VET and in the transition to employment, is good practice for all learners (European Agency for Development in special needs education, 2013). Relevant and engaging VET that motivates learners to continue their studies and qualify, prevents early leaving from VET; it also attracts early leavers to give a second chance to their education and opt for VET to retake their studies (Cedefop, 2016c, 2016d). Inclusive vocational education and training systems may facilitate the return and [smooth integration of refugee students](#) fleeing from conflict zones to European schools, as this will help alleviate their psychological stress and give them a sense of stability and normality and an outlook to the future (Psifidou and Treves, 2022a).

In all these perspectives, inclusivity is not seen as an add-on for VET systems, or a 'nice to have', but as a core element of quality VET, being good for all VET learners.

This is why the new Declaration on VET highlights its dual mission and sets the vision that 'excellent and inclusive European VET is more than a response to developments and challenges that individuals and organisations face; VET is an enabler of innovation and an essential foundation for green, digital and sustainable growth. It increases countries' resilience to crisis, develops quality opportunities of lifelong learning for all citizens and turns the digital and green challenges into driving forces that can reconcile sustained recovery, environmental sustainability and fair distribution of the benefits of growth among all citizens and societies. Excellent and inclusive European VET is equally necessary for the competitiveness of European enterprises and a well-functioning European labour market' (European Commission and German Presidency of the Council of the European Union, 2020, p. 3.). The Declaration focuses on four main areas for the years 2021 to 2025:

- (a) resilience and excellence through quality, inclusive and flexible VET;
- (b) establishing a new lifelong learning culture: relevance of CVET and digitalisation;
- (c) sustainability: a green link in VET;
- (d) European education and training area and international VET.

These are all key European priority areas that can only be met if each single teacher and trainer in each VET institution in Europe is well prepared and motivated to support learners.

1.2. Evolving and demanding roles

In the context of constant social, demographic, economic, scientific, cultural, environmental and technological changes, the world of education and training is changing, and must teachers and trainers, with increasing demands, responsibilities and expectations placed on them.

In the COVID-19 crisis, it was the commitment and creativity of teachers and trainers that safeguarded the continuity of the teaching and learning process (Cedefop, 2020). They had to move rapidly from face-to-face to predominantly distance learning, and, largely to virtual teaching. VET institutions and enterprises shut down globally, but most learning continued thanks to teachers and trainers.

Due to technological advancements, also triggered by the digital needs the pandemic has created, digital methods and means of teaching and learning are changing fast. New digital technologies provide new ways of organising and carrying out learning and teaching processes that allow for greater learning flexibility, including open, online and blended learning. The integration of artificial

intelligence (AI) (e.g. ‘intelligent tutoring systems’) and virtual reality (VR) in the learning process potentially offers greater personalised and inclusive learning approaches tailored to the needs of individual learners. However, the effectiveness of such tools on the quality of learning and teaching is not yet known. While using AI in education could generate new insights into how learning happens, it also implies new roles for VET teachers and trainers and poses important ethical questions for education and training institutions (Psifidou, 2020b).

Cedefop’s work on [tackling early leaving from VET](#) highlights the need for teachers and trainers to develop digital skills for inclusion. Despite the many benefits digital technologies bring to teaching and learning, vulnerable learners can become even more vulnerable online without tailored support to navigate safely; learners with special educational needs may have different learning paces using ICT technologies and may face difficulties during the learning process and eventually drop out (Psifidou and Treves, 2022b).

While Ukraine’s education system is being upended by the war, teachers are helping to provide stability for their students, along with other forms of emergency support such as evacuation and humanitarian aid. Teachers and trainers in the host countries welcome refugee and displaced learners, creating the conditions for a safe and protected environment and enabling them to continue with their education and training. They have to provide them with [psychosocial support](#) in a non-stigmatising way to maintain a sense of stability in their lives, providing routines and structures which make it possible for learners to achieve their goals in a stable and secure developmental context. In this respect, teachers and trainers need to reassure that education and training institutions are ideal places to operate as zones of protection and resilience during difficulty and uncertain times (Psifidou and Treves, 2022a). Ukrainian students are reported to be highly motivated to achieve educational goals (Jakubowski and Hippe, 2022) so ensuring the continuation of their learning process in the host country may help them fulfil their aspirations.

As a result of an increased and diverse flow of migration and international mobility, learning environments comprise ever more heterogeneous groups of learners. This greater diversity of learners can be of different origin: their ages, abilities, different socioeconomic backgrounds, special (education) needs, cultural, ethnic and language backgrounds. Depending on the aspect of diversity under consideration, school principals report that 17% to 31% of the teachers across the OECD work in educational institutions with a diverse student composition (ETUCE, 2021). Since it is unlikely that all the schools are subject to all forms of diversity at the same time, the proportion of teachers working with a diverse student population

is probably much higher. These figures represent significant cross-country variations (OECD, 2020).

According to the Education and Training Monitor 2019 (European Commission, 2019a), 34% of teachers in the EU work in schools with at least 10% of special needs students; 24% work in schools with at least 10% non-native-speaking students; 32% work in schools with at least 1% refugee students, a number that has multiplied in 2022 due to students fleeing the war in Ukraine; and 19% of teachers work in schools where more than 30% of students come from a socioeconomically disadvantaged background. This increasing diversity of students requires teachers and trainers to be equipped with pedagogical skills and competences to manage diverse classrooms.

Continuous innovations and challenges have an effect not only on the competences required, but also on teachers' and trainers' wellbeing and the attractiveness of the teaching profession. Motivation, career progression and wellbeing of teachers and trainers in VET are central to the attractiveness of their profession (Cedefop, 2019). In turn, their subject-related and pedagogical expertise, as well as their commitment, enthusiasm, job satisfaction and self-confidence, have an impact on learners' learning outcomes, education achievement and wellbeing, while providing a shield against early leaving from education and training (Psifidou, 2020a).

In the context of changing and emerging jobs and great uncertainty about current social, political and environmental developments, VET teachers and trainers have the responsibility of teaching not only professional skills to prepare learners to perform future jobs, but also the key competences needed to support their social responsibility and civic engagement, as well as their personal growth and human values.

Meeting the European Green Deal's (EGD; European Commission, 2021b) main target (reducing CO₂ emissions by 50-55% by 2030) is expected to create about 2.5 million additional jobs, with varying impact across sectors and occupations (Cedefop, 2021b). As the measures to implement the EGD gather pace, a substantial shift in the demand for skills will take place, also reflecting other megatrends like digitalisation; it will lead to changes in skill profiles in existing occupations and the emergence of new ones. Increasing the capacity of VET teachers and in-company trainers to help young people develop skills for the green transition is a great challenge that countries are now facing.

VET teachers and trainers can play a pivotal role in building trust between the worlds of education and work, which is essential in learning settings involving different environments. They must collaborate closely together, primarily at local level. Strong partnerships and networks and shared creation of knowledge and

expertise can be effective ways for teachers and trainers to address new tasks and challenges and develop new learning pathways, environments and formats. There may be an increase in the need for hybrid-model teachers and trainers who work in both vocational education and training institutions and companies; there is also a need for collaboration between teachers and trainers, particularly in-company trainers, given their complementary roles and responsibilities, especially in delivery of apprenticeships and work-based learning. School-business cooperation can be organised through a variety of methods, including the creation of special centres or through tandem trainings, where VET teachers and trainers are trained together (European Commission, 2018). However, Psifidou and Pevec (2022) point out that there are some requirements for the successful implementation of school-business partnerships, such as the need for structural changes and financial and non-financial incentives. Several countries have made structural changes in their curriculum documents to support innovations at providers' levels and cooperation between schools and companies.

As a result of the increased autonomy of VET institutions which was observed over the past decade, teachers and trainers are more autonomous in selecting teaching approaches, methods, techniques, contents and forms of work. With the implementation of learning outcomes and (national) standards for knowledge, skills and competences (Cedefop, 2016a), VET teachers and trainers have greater involvement in the development and implementation of education and training reforms, especially in relation to curriculum design and when deciding on appropriate vocational pedagogies (Cedefop, 2015; Psifidou, 2011). With more emphasis towards individualistic and constructivist learning approaches and classroom-based formative assessment (assessment for learning) gaining ground in European classrooms, VET teachers and trainers need to be able to align their assessment criteria and methods and provide learners with quality feedback which can guide and improve their further learning (Psifidou, 2012).

In all these learning contexts (IVET, CVET and adult learning more broadly), teachers and trainers can be agents for innovation and for ensuring greater quality in VET. But to fulfil their multiple roles and manage complex changes, arrangements must be in place to help them become familiar with modern pedagogical and adult learning approaches, as well as to equip them with the right mix of skills and experience they need to deal with current and emerging needs.

1.3. National challenges and policy responses

Challenges raised by ReferNet in relation to VET teachers and trainer continuous professional development and respective policy responses can be either country-

specific or present similarities across a larger number of EU+ countries, allowing examination of current trends. Social, environmental and economic transitions currently taking place in Europe and worldwide are bringing evolving challenges and shaping VET policy responses accordingly.

Most EU countries have reported an ageing VET teaching population and shortage of young VET teachers. This is partly explained also by the reported low attractiveness of both VET in general and VET teaching specifically. Low enrolment rates characterise VET, due in part to poor permeability between upper secondary VET and higher education. Low remuneration is pointed out as a key factor for not attracting and retaining young VET teachers. In some countries, such as Finland, there have been recent funding cuts for VET, leading to a twofold challenge: reduction in the overall number of VET teachers combined with a noted increase in workload for the teachers that have remained. Job stability is also mentioned by countries as a challenge linked to the attractiveness of the VET teaching profession.

What seems to be a major source of concern for several EU countries is the rather weak linking of VET programmes with the labour market. Several countries report issues: shortage of both apprenticeship placements and apprenticeship instructors, in-company trainers or industry practitioners; lack of flexibility in labour market experts obtaining a pedagogical qualification; need to follow the latest industry developments; limited capacity to deal with emerging issues; insufficient guidance at the workplace and new requirements in relation to labour market needs for skills and qualifications.

COVID-19 and its implications for teaching and training appears extensively in ReferNet country reports: 12 countries have referred to it as a major challenge for VET teachers and trainers. However, what countries stress is that, although both governments and teachers and trainers were left with no choice but make the most out of the sudden digital transition taking place in VET, they managed to find a way to deal efficiently with COVID-19 implications. Most ReferNet reports highlight teachers' responsiveness in ensuring continuity of learning activities (in both school-based and work-based environments), as well as government initiatives, such as the prioritisation of vaccination for teachers and free provision of digital teaching equipment and internet access. These confirm Cedefop's preliminary findings during the first wave of the pandemic (Cedefop, 2020a).

Less frequent challenges are mentioned by countries: gender imbalance among VET teachers, with a prevalence of women over men; VET teachers' low motivation and interest in CPD, leading to low participation; outdated theoretical preparation of VET teachers; reaching vulnerable groups, particularly learners with disabilities; and VET teacher evaluation.

In alignment with these challenges, policy responses have been targeted but not always with the same focus across the EU countries during the past 5 years. For example, the Flemish Community in Belgium has tackled the shortage of technical and scientific candidates. In Croatia, the VET system development programme 2016-20 has stressed the need to improve VET teacher competences, motivation and participation in CPD, as well as its availability, relevance and quality. In Spain, VET teachers have been put on an equal footing with general secondary education teachers, while ‘vocational training’ has been added to the name of the Spanish Ministry of Education. In Germany and Sweden, emphasis has been placed on VET sustainability aspects. Denmark has focused on decentralising the supervision of teaching, while Portugal has taken steps relating to the permeability between upper secondary VET and higher education.

In addition to these country-specific policy responses, there have been some cross-cutting policy and practice developments that are common to several EU countries: countries place great importance on CPD quality and flexibility, seeking to improve VET teachers’ competences and preparedness; countries have been increasing and/or upgrading apprenticeship and work-based learning; steps have been taken towards a greater involvement of employers in VET in an effort to respond to skill mismatches and better respond to emerging labour market needs and requirements; in the aftermath of COVID-19, the digitalisation of education and the improvement of VET teachers’ digital skills have been considered a priority; and efforts have been made by countries to increase the attractiveness of VET teaching, including by increasing VET teachers’ salaries. Some of these policies, focusing on inclusion, green skills and digitalisation are discussed in more detail in later sections.

1.4. Cedefop’s contribution

Cedefop has a long tradition of supporting the European Commission, Member States and social partners in implementing the EU policy agenda on VET teachers and trainer continuous professional development and the European cooperation programmes in this area.

As early as 1998, Cedefop established the TTnet network as a pan-European forum for key players and decision-makers involved in the training and professional development of vocational teachers and trainers; this operated up to 2011. Then, Cedefop and the European Commission coordinated the ET 2020 Thematic working group on professional development of trainers in VET that incorporated the activities of TTNet.

The more recent work of Cedefop is summarised below ⁽²⁾.

- (a) Monitoring developments in the Member States and providing evidence and data, such as related publications and thematic country reports.
- (b) Providing technical papers and guiding principles.
- (c) Organising conferences and policy learning forums on the professional development of teachers and trainers in VET; for example, the [Third policy learning forum](#) focuses on assessing the feasibility of a pan-European survey of VET teachers and trainers in IVET.
- (d) Collaborating in other EU actions and processes, such as the [ET2020 working group on VET: innovation and digitalisation](#), which produced the report 12 Policy pointers, to inspire the Member States to improve and, more important, to monitor professional development for teachers and trainers (European Commission, 2018); also the new ET2030 working groups of schools, especially the strand on Pathways to school success, and the Working group on digital education: learning, teaching and assessment (DELTA).
- (e) Developing tools and tips for supporting VET teachers and trainers to reach dropouts and [early leavers from education and training](#) promptly and help them reintegrate back, and to support at-risk learners more effectively so that they remain in education and training (Box 2). This phenomenon is a pressing issue in Europe, resulting in considerable costs for individuals and society, and a constant preoccupation for VET teachers and trainers.
- (f) Developing a new [VET toolkit for empowering NEETs](#). Students who drop out from education and training are at greater risk of becoming NEETs (young people not in education, employment or training) and socially excluded. Cedefop has developed new resources for policy makers, teaching and training staff working with NEETs (Box 3).
- (g) Developing the Cedefop [Green Observatory](#) which brings Cedefop's work on the green transition together (Box 4).
- (h) Carrying out a [feasibility study](#) for launching a pan-European survey of VET principals, teachers, in-company trainers and learners in IVET, which will bring more insights and fill important research gaps in this field. The pilot survey focuses on four main areas: VET school principals, teachers and in-company trainers, their evolving role and challenges (including challenges raised during COVID-19); their skill needs and qualifications including access to quality continuous professional development; their career progression and wellbeing; and learners' experiences and satisfaction with VET pedagogies and learning environments. Based on the outcomes of the feasibility study, Cedefop will

⁽²⁾ More information available on the [project page](#).

assess the practicability of launching a pan-European survey (Cedefop, 2021a).

Box 2. Cedefop VET toolkit for tackling early leaving



In 2017, Cedefop launched the [VET toolkit for tackling early leaving](#) from education and training (ELET), with a view to providing practitioners and policy-makers with practical support in designing, implementing and evaluating effective policies and practices.

Cedefop has been leading research work since 2010 to support the European Commission, EU Member States and social partners to reach the EU strategic objective of lowering the rates of early leaving to less than 10% by 2020.

In 2019, a new enriched version of this toolkit was launched in Cedefop's Brussels-based policy forum, organised jointly with the Lifelong learning platform under the Romanian Presidency. Since then, the VET toolkit has evolved dynamically and currently has around 280 [resources](#) including good practices, quick wins, effective intervention approaches inspired by VET practices, data, reflection and evaluation tools, helping thousands of VET practitioners and policy makers in Europe tackle early leaving at every stage, from promptly identifying learners at risk, to reintegrating early leavers back to education and training.

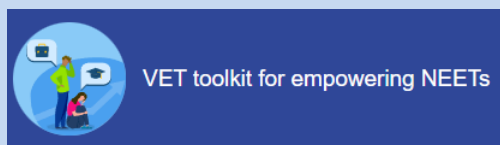
A [reflection tool for VET providers](#) proposes concrete steps to help them understand the current patterns of ELET, to analyse the action needed to tackle this problem, and to develop an action plan to improve the institutional approach. It proposes questions for reflection, a screening tool to assess the current institutional approach needed to prevent ELET, and a template for developing an action plan, which can be used as part of an individual or group exercise.

VET practitioners may use [Cedefop's evaluation plan](#) for the monitoring and evaluation of specific policies and measures to be used by learning providers who are not evaluation experts. They can use the plan when developing their monitoring and evaluation approach.

Specific intervention approaches on [Professional development for inclusive teaching and training](#), [Digital inclusion](#) and [Psychosocial support](#) to refugees give tips and guidelines to both policy-makers and VET teachers and trainers for promoting inclusion in school-based and work-based VET settings.

Source: Cedefop (2022l).

Box 3. Cedefop VET toolkit for empowering NEETs



Inspired by successful VET practices across Europe, the interactive [Cedefop VET toolkit for empowering NEETs](#) is designed to help policy-makers, practitioners and learning providers address the specific needs of different [profiles of NEETs](#) and reintegrate them into education or training and/or the labour market.

The toolkit can be used to:

- design, implement and evaluate [interventions](#) to support young NEETs;
- foster mutual learning between policy makers and practitioners;
- support decision-making processes through the development of action plans.

Among its [resources](#) are:

- evaluation plans for policy makers;
- evaluation plans for providers of support to young NEETs;
- good practices drawn from successful VET practices;
- publications, statistics and data on NEETs in the EU Member States;
- tools developed as part of projects funded by the Erasmus+ programmes.

Source: Cedefop (2022i).

Box 4. Cedefop's work on the green transition



For over a decade, Cedefop has been exploring the implications of environmental policies on skills and jobs. Following the adoption of the EGD, Cedefop has stepped up its efforts to provide VET information and skills intelligence relevant to the green transition, helping update existing, and develop new, training programmes for VET teachers and trainers ⁽³⁾. According to the [Cedefop skills forecast scenario report](#), implementing the EGD is expected to create about 2.5 million additional jobs; however, the extent and direction of the impact will differ significantly across sectors and occupations, underlining the importance of up- and reskilling opportunities for learners, and for teachers and trainers. In sectors where significant employment growth is foreseen, there is a need to equip workers with new skills, and also to attract young learners in the sector. At the same time, workers in sectors that are expected to bear

⁽³⁾ All Cedefop work relevant to the green transition can be found in Cedefop Green Observatory (Cedefop GO) (Cedefop, 2022b).

significant employment decline will need to be supported in their transition to another sector or even another occupation.

Both initial and continued vocational education and training have a key role to play in helping different learners navigate the green transition. IVET can be a powerful policy tool both, in the short and in the long term (Cedefop, 2022a): changes already taking place in existing skill sets and the emergence of new ones, often driven by 'green' technologies call for 'sprint' VET solutions to mitigate the relevant skill mismatches, also for vulnerable groups such as NEETs, early leavers from education and training, and migrants, and to alleviate pressures on local labour markets. At the same time, as the green transition is not a static goal but a shift to a new paradigm, a longer-term approach is necessary. Forward-looking IVET programmes, including apprenticeships (Cedefop and OECD, 2022), can encourage and ease progress towards the green transformation by shaping skills for workers, learners and citizens, support the inclusion of vulnerable groups in the labour market, strengthen gender balance in the employment of key 'green' sectors and trigger employer innovativeness.

Given the pervasiveness of the green transition across the economy, VET provision for learners, workers and teachers and trainers needs to be shaped based on robust skills intelligence collected through an array of skills anticipation approaches. 'Traditional' methods and tools, such as skills forecast and graduate surveys, can be coupled with more advanced or updated methods, for example building on big data and artificial intelligence (AI) ⁽⁴⁾. To that end, Cedefop is also using its Skills OVATE data to identify skills relevant to the green transition in online job advertisements. Skills intelligence at national level can be inspiring, but it is developments in each sector – filtered for regional/local/city level specificities – that can better reflect labour market needs and trends, as highlighted in Cedefop's sectoral skills foresights (Cedefop, 2022e).

Source: Cedefop.

⁽⁴⁾ Cedefop series of practical guides; and new and updated methods (Cedefop, 2021d, 2021e, 2021f).

CHAPTER 2.

Types of teaching and training professionals

The following chapters provide a synthesis of information gathered from the Cedefop/ReferNet thematic perspectives. References can be found at the end of the document ⁽⁵⁾.

2.1. Main types

IVET is not specifically defined in some countries (e.g. Ireland, Cyprus, Latvia, Malta, Poland, Slovakia) though there is a country-specific definition in others. The picture across EU+ countries is quite diverse, and attempts at defining IVET follow many directions, mentioning education level, type, age, programmes, schools, qualification, competences, profession and courses (Table 1). The most common features of IVET mentioned in the definitions are education or qualification levels and the reference to a qualification, degree, diploma, profession or occupation. Some countries place greater emphasis on labour market integration (mentioning qualifications) while others focus more on the development of (key) competences of learners.

But each country where a definition exists has its own focus. For example, in Czechia IVET 'IVET provides the graduates of secondary VET schools and tertiary professional schools with knowledge, skills and competences – both key and professional – for qualified performance of occupations and for their further education. IVET develops their general competences and creates preconditions for their civic and personal life'. In Greece IVET 'includes activities that offer basic professional knowledge, skills and abilities in specialties and specialisations aimed at the integration, reintegration, professional mobility and development of human resources in the labour market, as well as professional and personal development'. In Croatia, 'IVET is delivered at the upper secondary education level, mostly through school-based 5- and 4-year and 3-year programmes, all at EQF level 4, consisting of general and vocational education parts, as well as work-based learning, with varying shares'. In the Netherlands it is simply a 'synonym for upper secondary vocational education, offering courses at EQF levels 1-4'.

⁽⁵⁾ In some cases, the information has been copied from these articles.

Table 1. **Features of IVET definitions**

Area	Description	Country
Education level/EQF level	E.g. upper secondary, further vocational training, higher VET	AT, BE, BG, CZ, DE, DK, ES, FR, HR, IE, IT, LU, MT, NL, PL, PT, RO, SE, SI
Qualification/degree/profession/occupation		BG, CZ, DE, EE, FI, FR, HU, LT, LU, LV, MT, NO, PT, SK
Programmes/courses/pathways	E.g. 2 000-hour programmes	BE, ES, HR, IT, NL, PT, SE
Place of training	E.g. school, company	AT, CY, CZ, IT, PL, SI
Competences of learners	E.g. competences for their further education, for occupation	CZ, DE, EE, EL, LV, NO
Type of training	E.g. (core) apprenticeship; practical, general, theoretical; basic	AT, CY, FR, IS, LU, LV
Age		BE, ES, FI, LU
Type of schools	E.g. full-time or part-time schools, public or private	AT, CY, IT

Source: Cedefop.

VET teachers and trainers – depending on a country's VET system – have been put into different types of VET teaching professionals in previous [Cedefop work](#) (Cedefop, 2016b):

- (a) teachers of general and vocational theoretical subjects in VET schools/centres;
- (b) teachers of practical subjects in school workshops or simulated learning environments;
- (c) apprentice tutors (mentors) in companies;
- (d) practical training instructors who accompany students during work-based learning parts of the school-based programmes, which take place in companies.

The current report verifies and further specifies these different types. In this section, we focus on teachers of school-based types (a) and (b), while section 4 investigates work-based types (c) and (d).

In very few countries is there only one type of professional (Norway, Sweden), while most European countries have several types of teachers. The most current distinctions among VET teachers and trainers are along the subject lines (general subjects or vocational/occupation/technical/profession-related), the learning dimension (theoretical versus practical or practice) and the role teachers have. An example for distinguishing according to subject lines and learning dimension is

Bulgaria, where there are six (sub)types of teachers: general studies teachers delivering training in general education subjects; teachers in specific vocational training subjects; teachers in theoretical training; teachers in practical training; teachers in profession-related foreign language; and teachers-methodologists. In Czechia there are teachers of general subjects, teachers of vocational theoretical subjects, teachers of practicum and practical training, and practitioners/professionals from related fields.

Such differentiation is even stronger in Poland, where there are general subject teachers, theoretical vocational subject teachers, practical vocational training teachers, teachers/pedagogues providing educational support to learners, teachers/psychologists providing psychological support to learners, teachers and parents, teachers/methodology advisers providing support to teachers, and teachers/consultants who develop teaching materials, design and deliver in-service training courses for teachers and education managers.

The distinction by role is exemplified by the Netherlands, where there are teachers, teachers in training/under apprenticeship contract, and teaching assistants, such as classroom assistants, care jobs, instructors.

Differentiation is also found according to the learning place or type and task. For instance, in Italy there are teachers (who work in public and private VET schools) and trainers (who work in VET centres or other training settings). More specifically, differences among teachers are mostly related to one of the following dimensions (Table 2).

Table 2. **Types of professionals**

Area	Description	Country
Subject taught	E.g. general versus vocational, occupation/technical/profession-related	AT, BE, BG, CY, CZ, DE, EE, ES, FI, HU, LU, LV, PL, RO, SI, SK
Learning dimension	Theoretical versus practical/practice	AT, BG, CZ, DE, DK, FR, HR, HU, IS, LT, PL, PT, RO, SI
Role	'Full' teachers, managers, auxiliary or assistant staff, specific specialised staff	DE, HR, HU, IE, MT, NL, PL, SI
Learning place or learning type	School versus traineeship/apprenticeship, in school or workplace/specific training centre	BE, EL, FR, IT
Task	Supervising versus providing knowledge/instructing	BE, LT, LV, PT
Education level	Compulsory or post-compulsory level	CY, MT
Scope	Part- or full-time VET school	DE

School ownership	Public versus private	CY
Contract type	Civil servants versus temporary employees	EL
Legal definition	Whether or not considered as teacher by law	SK

Source: Cedefop.

In addition, usually just one or two types of trainers are work-based and/or work in a company. Names (in English translation) of trainers vary, and combine different terms (Table 3).

Table 3. **Trainer types**

Type	Sub-types
Trainers	<ul style="list-style-type: none"> • Trainers • IVET trainers • VET trainers • In-company trainers • Lead trainers
Tutors	<ul style="list-style-type: none"> • Tutors • Company tutors • Training tutors • Practical training tutors • Student internship tutors • Apprentice tutors
Mentors	<ul style="list-style-type: none"> • Mentors • Workplace mentors • Apprenticeship mentors • Apprentice mentors • In-company mentors
Instructors	<ul style="list-style-type: none"> • Practical vocational training instructors • Instructors of practical training • Apprenticeship instructors • Dual instructors • Dual head instructors • School-affiliated instructors
Other	<ul style="list-style-type: none"> • Teachers-methodologists • Apprenticeship inspectors • Master craftspeople • Training supervisors • Assessors

Source: Cedefop.

2.2. VET schools

When it comes to VET school types, European countries are united in diversity: in some countries there is only one VET school type while, in many, there is a whole range of types: mixed schools, national reference centres, higher VET colleges, school clusters or professional schools. The most common distinctions are by VET specialisation, education level and whether it is a school setting or focuses on apprenticeship training. These different types can be shown as follows (Table 4).

Table 4. **Types of VET schools**

Area	Description	Country
Specialisation	e.g. sports, arts, business; vocational or technical; SEN; one sector or multisector	BG, CZ, DK, HU, LV, NL, SI, SK
Education level	Intermediate, higher, secondary, tertiary	AT, CZ, EL, IT, LV
School or providing apprenticeship training	Both company or training centre	AT, BE, EL, FR
Vocational versus technical		CZ, HU, IT, LV
Public or privately run/specific organisation		EL, IE, PT
Mixed or not	i.e. providing general and VET	ES, LU
Providing dual education or not		BE, HU
Full- or part-time		DE
Length of study provision		EL
Reference centres or not		ES
Forms of management	Direct or participated management	PT
Including both IVET and CVET or not		SI

Source: Cedefop.

Differentiating according to specialisation is found in Denmark, which has technical colleges, social- and health-care colleges, business colleges, agricultural colleges and adult VET centres. In the Netherlands there are multisector regional

education centres, specialist trade colleges and agricultural education centres. Different types of education levels are characteristic for Austria, which has full-time vocational schools that are either schools of intermediate vocational education or colleges of higher vocational education. Training may also be done in form of apprenticeship training: in Austria it takes place in a company or as supra-company training (which primarily addresses young people who are unable to find a company-based apprenticeship post). There may also be a distinction related to being a trade, vocational or trade school. For instance, in Latvia, there are vocational primary schools, trade (vocational) schools, vocational secondary schools and technical schools.

2.3. Teaching and training professionals by type of VET school

A question that arises is whether teaching and training professionals are the same or different depending on the type of VET school. Feedback from countries analysed shows that, in most, they are the same (23 countries), while only in six countries are they different (Belgium, France, Italy, Cyprus, Hungary, Slovakia). The differences are related to education and apprenticeship systems, qualification, whether they are State or VET centres, and also according to programme.

CHAPTER 3.

Teaching and training professionals in school-based settings

3.1. Legislation

Most EU countries have national legislation on teachers' and trainers' professional development, as well as on teachers and trainers in general. In some countries, legislation is not national but regional (e.g. Belgium, Germany and Italy). Few EU countries have reported that there is no specific legislation on teachers' and trainers' professional development. For example, in Belgium there is no relevant legislation because a decentralised model has been adopted, according to which the responsibility for teaching staff professional development lies with the institutions. In Norway, relevant legislation regulates only IPD but not CPD. In Ireland, no legislation about teachers and trainers is available. In general, legislation across the EU is less common for trainers compared to teachers but, for the latter, there is not necessarily a distinction between general education and VET teachers.

3.2. Qualification and competence requirements

The landscape is quite diverse across EU countries, in terms of VET teaching qualification and competence requirements in school-based settings. Requirements may differ by type of subject taught (e.g. teachers of general subjects versus vocational theoretical or practical subjects) as well as by level of education (e.g. lower versus upper secondary VET).

In all EU countries, Norway and Iceland there are pedagogical and/or teaching qualification requirements, which VET teachers can obtain either as part of the core programme of their studies or as an additional pedagogical/teaching certificate, if the core programme does not include such a component. This is more often the case for teaching vocational theoretical and/or practical subjects: VET teachers are required to have a degree in a specific field of studies, plus the appropriate pedagogical qualification.

In most countries, to teach general subjects or vocational theoretical subjects, the minimum qualification requirement is a higher education degree (university degree, bachelor or master degree, depending on the country). VET teachers of practical subjects may have a university degree or a professional degree or an

upper secondary diploma as minimum requirement. In 12 EU countries, professional experience is either a requirement (Germany, Greece, France, Croatia, Italy, Lithuania, Malta, Austria, Poland, Slovenia and Finland,) or an advantage (Cyprus), mainly for teaching practical subjects. In six EU countries, VET teachers must also pass some kind of State examination, selection test or competition (Germany, Greece, Spain, France, Malta, Slovenia).

Greece is the only country that also sets social criteria (in addition to academic and teaching experience criteria) as part of the call for interest for recruiting teaching staff in the formal VET sector. Social criteria refer to parents of two or more children, disability, disability of children, etc., and are taken into account in the classification of teachers in candidate ranking lists for their recruitment. In Czechia, practitioners and/or professionals need to acquire a teaching qualification only if they carry out a part-time job in a school-based setting, but an exception can be granted by the school principal. Exceptions to the general principles governing VET teaching requirements are possible also in Finland. In Estonia and Italy, there is also a foreign language requirement at B2 level for VET teachers. In Italy, there is a probation/training period of 1 year after obtaining the teaching habilitation for VET teachers. In Latvia, pedagogical competences can be acquired through CPD, while in Portugal, teacher professionalisation is subject to supervised practice further to an initial teaching training programme at tertiary level and a postgraduate certificate of education.

Table 5 provides an overview of qualification and competence requirements by country.

Table 5. **Qualification/competence requirements by country**

Qualification/competence requirement	Countries
Academic requirements (bachelor or master degree, subject field and pedagogical competences)	All EU+
Work experience	AT, CY, DE, EL, FI, FR, HR, IT, LT, MT, PL, SI
State examination/selection test/collective agreement	DE, EL, ES, FR, MT, SI
Foreign language	EE, IT
Practitioners/professionals teaching in schools	CZ, IT
Flexibility (exceptions)	CZ, FI
Social criteria	EL

Probation	IT
CPD	LV
Subsequent supervised practice	PT

Source: Cedefop.

3.3. Initial training programmes

In most EU countries, IPD training programmes are delivered at higher education/tertiary level, as part of bachelor and master degree programmes, often with a dual qualification: subject knowledge and teaching qualification (see also Section 3.2). However, in several countries, there are more specific initial training provision settings. In Bulgaria, there is a mixed model of initial teacher training including the offer of the educational minimum of theoretical and practical preparation that is legally regulated; the course is delivered full-time, part-time and through distance forms with a duration of not less than 1 year. In Belgium, in the French Community, people without the required qualification may teach with 'qualification deemed sufficient' or a 'shortage qualification', while VET institutions are also allowed to recruit people with no qualifications. Since 2019, the Flemish Community has six teacher training programmes, while in the German-speaking Community there are no institutions organising initial education training for IVET and all IVET teachers are admitted based on qualifications obtained in the other Communities of the country. In Iceland, there is a 60 ECTS undergraduate diploma, available as a 1-year full-time study programme and as a 2-year part-time study programme. In Lithuania, there is only one specialised pedagogical study programme. In Sweden, there are four different programmes and education degrees, one of which is in VET: a degree for teaching in vocational education can be obtained by studying for 1.5 years in a vocational teacher programme.

However, in most European countries there are no specific initial training programmes that prepare teachers of general subjects to teach in VET schools. Only six EU countries have reported the existence of such a programme: Germany, Greece, France, Croatia, the Netherlands and Austria. Of these countries, Germany, Greece, the Netherlands and Austria have mentioned differentiation of training programmes between general education and VET or specific graduation tracks for VET, while in France and Croatia the initial training programme takes the form of a traineeship. For example, in France, after succeeding in the national examinations (CAPLP competition) to become a VET teacher, candidates are appointed as trainee vocational high school teachers. The 18 weeks spent in a

professional environment (in high school) over the entire curriculum, contribute to the training of students, enabling them gradually to enter the teaching, education and training professions.

3.4. Requirements for continuous professional development

In 19 EU countries (Belgium, Bulgaria, Czechia, Denmark, Germany, Greece, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Austria, Poland, Portugal, Romania and Sweden), VET teacher CPD is mandatory. However, not all 19 countries specify the number of hours of CPD VET teachers are required to take, the required periodicity of CPD or the content CPD should focus on: some are more explicit on the specific requirements, while others specify the obligation of CPD but remain flexible as to the number of required hours and content. For example, in Austria, teachers have to attend in-service training events up to 15 hours per school year in non-teaching time, but there is no requirement on content. In Belgium, in the Flemish Community, there are no formal requirements for individual teachers regarding the content, form or frequency of CPD activities, but schools are required to draft a yearly professional training plan focusing on expectations and requirements regarding staff CPD. In Czechia, CPD is mandatory, but there is no minimum time set; similarly, in Germany, there is a CPD obligation, but the scope varies according to the region. In Lithuania, a VET teacher is entitled to participate in CPD at least 5 days a year and at least once every 4 years teaching staff must improve their qualifications in developing learners' social and emotional competences. Poland, Portugal and Romania have described CPD as 'both a right and a duty'.

Only six European countries (Finland, Iceland, the Netherlands, Norway, Slovakia and Spain) have reported that CPD is voluntary and/or that teachers take responsibility for their professional development. Only three countries (Spain, Poland and Slovakia) have mentioned that CPD is linked to a salary supplement and/or career progression. Four countries (Estonia, Ireland, France and Slovenia) have no available information on CPD requirements.

Table 6 provides an overview of CPD requirements by country.

Table 6. **CPD requirements by country**

CPD requirement	Countries
CPD is mandatory	AT, BE, BG, CY, CZ, DE, DK, EL, HR, HU, IT, LT (partly mandatory), LU, LV, MT, PL, PT, RO, SE
CPD is voluntary	ES, FI, IS, NL, NO, SK
CPD is linked with salary supplement and/or career progression	ES, PL, SK
No information available on CPD requirements	EE, FR, IE, SI

Only three countries (Denmark, Slovakia and Finland) have reported that they do not carry out needs analysis for CPD. All other European countries have stated that needs analysis takes place prior to CPD, usually at school level, conducted by teachers themselves and/or the school director. In some countries, the Ministry of Education is also involved, for example publishing a list of priorities (Slovenia). Only in three countries (Germany, Estonia and Malta) is the CPD needs analysis based on the results of internal or external evaluation, self-evaluation and/or annual appraisal processes.

Most European countries have reported described three main types of competences covered by CPD: technical or subject-specific, pedagogical/teaching/didactic, and transversal/cross-cutting. Only Latvia has reported that digital skills are covered by CPD and only Denmark referred to technological skills. No country referred to green skills within the framework of CPD. Finland and Iceland have mentioned no specific competences, but expressed flexibility: in these two countries competences covered depend on what is sought or needed by VET teachers and trainers. Croatia, Poland and Slovenia have included vocational skills, while Bulgaria has included assessment methods. Classroom management, learners' wellbeing, school climate and student guidance are reported as competences covered in CPD by Bulgaria, Luxembourg and Norway. In Italy, there is no specific framework of reference as to competences covered in CPD, but focus is placed on priorities fixed by the Ministry of Education, such as civic education, tackling early leaving and inclusion, formative evaluation procedures and digitisation of schools, among others.

Mentoring of VET teachers and trainers is either not carried out or there are no available data in 14 European countries (Belgium, Croatia, Czechia, Denmark, Finland, France, Greece, Iceland, Ireland, Italy, Norway, Slovakia, Slovenia and Sweden). In the remaining countries, mentoring is usually available for newly appointed or trainee teachers; it is often part of the IPD or induction plan. In most

of the European countries where mentoring requirements apply, experienced VET teachers act as mentors for their newly appointed colleagues. Austria specifies that at least 5 years of experience are required for a VET teacher to be appointed as mentor. Mentoring usually includes methodological support in the education process, organising classes led by both the mentor and the newly appointed teacher, motivation for professional improvement, as well as preparation and implementation of the CPD plan. Mentors can be designated by the school principal or by school inspectorates.

VET teacher opportunities for validation and recognition of competences acquired on the job and in non-formal settings are diverse but equally distributed among the European countries. In nine (Belgium, Greece, Italy, Ireland, Latvia, Luxembourg, Norway, Slovenia and Sweden), there are no available data about whether it is possible to validate or recognise competences acquired outside the formal work setting. In nine countries (Austria, Cyprus, Finland, Iceland, Lithuania, Poland, Portugal, Slovakia and Spain), there are no opportunities for validation and recognition. In the remaining 11 countries (Bulgaria, Czechia, Denmark, Germany, Estonia, France, Croatia, Hungary, Malta, the Netherlands and Romania), it is possible to validate or recognise competences. In Bulgaria, regional management units of the Ministry of Education can recognise competences acquired within the framework of mobility projects (e.g. Erasmus+) or other exchange programmes. In Czechia and in Estonia, internship in a company or institution can be validated and recognised as CPD. In Germany, there is the personal professionalisation portfolio, which is used for validation purposes.

CPD is organised and provided in a wide variety of forms across the EU+. These include courses, seminars, workshops, webinars, scientific research projects, internships, competence-sharing in professional networks, mentor or school networks, team-based learning in school teams, peer learning, symposia, exchange of experiences, educational partnerships, master degree studies, postgraduate programmes, doctoral studies, formal higher education programmes for upskilling, thematic conferences, and study groups. The format of CPD is also characterised by flexibility, as it can follow an in-person, synchronous or asynchronous, online or hybrid model. It can also take place within a self-study or institutional context.

3.5. Data on teachers and trainers in school-based settings

There is no common approach among European countries regarding data collection on VET teacher CPD. 10 countries (Belgium, Croatia, Denmark, Ireland,

the Netherlands, Malta, Norway, Slovenia, Spain and Sweden) have reported that there are no data available. In some of these countries, there are some data, but without a specific focus on CPD. For example, in Belgium data are collected by region, but they are not always comparable. In Denmark, there are some data available on the status of VET teacher CPD. In Spain, the only data available come from OECD's TALIS. In Croatia, there are overall data, but none on VET teachers. In Slovenia, data are available only on KATIS ⁽⁶⁾ CPD programme.

The remaining 19 European countries do collect data on VET teacher CPD, but each country has its own specific focus, making it difficult to have a comparable dataset at EU level. Estonia and Lithuania are the two countries with the most comprehensive datasets on VET teacher CPD, as they collect a wide range of data. Estonia's data include numbers of teachers, teaching positions, age, gender, geographic distribution of teachers, their qualification levels and salaries. Lithuania also collects data on number of teachers, age, education, length of service, qualification types, but places a clearer focus on CPD by collecting data on the number of teachers who participated in CPD courses and numbers of CPD events held at the institution.

Other CPD aspects on which data are collected across the EU include the following: data on in-service and continuing training and teaching type (e.g. Germany, Austria), participation by CPD activity (e.g. Bulgaria), number of teachers participating in seminars and CPD or in-service training programmes, whether optional or mandatory (e.g. Germany, Greece, France, Cyprus, Hungary, Austria, Poland, Romania and Finland). In addition to Lithuania and Estonia, data on teachers' qualifications are collected in Czechia, Latvia, Hungary and Finland. Iceland collects data on VET teachers that have been granted study leave, while Italy collects data on the number of VET centres conducting CPD activities. Luxembourg is the only EU country that collects data on the number of teacher trainers in IPD and CPD.

⁽⁶⁾ KATIS is a national catalogue where Slovenian training is published (online platform), accessible only to teachers and counsellors in schools.

CHAPTER 4.

Teaching and training professionals in work-based settings

4.1. Definitions

Definitions of training professionals in work-based settings range widely in Europe and usually comprise one or several types (Table 7). Most frequently, the place of work and the type of placement is emphasised, as are the tasks, duties and responsibilities. For example, in Germany trainers are described as ‘responsible for planning training content and schedules and for conducting in-company vocational training programmes; [t]hey are the point of contact in the company for the apprentices’, or in Spain the ‘in-company tutor role is to guide the learners/apprentices’ learning process and to monitor and assess them while in the company, though the learners’ final marks and evaluation are given by the tutors/teachers of the VET training centre, based on the information given by the in-company tutors’. Less frequent are the type of training provision to students (i.e. whether practical or theoretical) or if it is only a supervisory role. The actual competences, qualification or work experience are only mentioned in the definitions of a few countries. For example, in Romania, to be an in-company tutor, according to regular practice, ‘considers high-experience in the field of the company, very good knowledge of the technological processes and technologies in use and very good communication skills’.

Table 7. Definitions of training professionals in work-based settings

Area	Description	Country
Place of work	Company; external consultant or training centre; VET school	BE, BG, CZ, EE, ES, FI, FR, HR, IT, NL, PT, SK
Type of placement	Internship, apprenticeship/apprentices	AT, CY, DE, DK, ES, FR, IE, IT, LT, LU, PL
Tasks, duties and responsibilities	E.g. on-the-job training, supervision	BE, CY, CZ, DE, ES, HU, IE, IT, LV
Type of training provision to students	Practical or theoretical	EE, FR, LU, PL, SK
Supervisory or accompanying role only	Instead of also providing training	LT, LV, NO, PT, SE

Area	Description	Country
Competence	Knowledge, skills and attitudes	AT, CY, EL, RO
Type of centre	E.g. dual education and training	BE, HU, SK
Qualification		BG, IS, PT
Appointed/nominated by VET school or by company		CZ, LT, LV
Work experience or previous training	Previous training: to perform this role	BG, RO

Source: Cedefop.

4.2. Legislation

In most European countries, this group of VET professionals is reflected in legislation, strategic documents or implementation provisions (24 countries, see Table 8). For example, in Czechia, there are guidelines, but there is no legislation. In fewer countries, there are also requirements for qualifications and/or competences (18 countries): they must have the necessary formal qualifications and professional rights for the profession being taught in Greece, while in Luxembourg they undergo 3-day paid training. In Hungary, they need at least to have a state-recognised secondary vocational qualification appropriate to the profession taught by the dual training site and at least 5 years of professional experience corresponding to the qualification concerned, and pass the chambers' practice trainer examination. Poland has the following requirements: pedagogical qualifications, education level, professional qualifications and professional experience. Only in eight countries are there known national qualifications or competence profiles for these professionals. For example, in Lithuania the Qualification standard for education sector and library activities legitimates and defines the VET trainer qualification at EQF level 5.

Table 8. **Legislation**

Area	Country
Reflected in legislation, strategic documents or implementation provisions	AT, BE, BG, CZ, DE, EE, EL, FI, FR, HR, HU, IS, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SI, SK
Requirements for qualifications and/or competences	AT, BE, BG, DE, EE, EL, FR, HR, HU, IE, IS, IT, LU, LV, NO, PL, SI, SK
National qualifications or competence profiles for these professionals	CZ, DE, EE, FR, LT, LV, NO, PL

(*) Within dual education and training centres only.
Source: Cedefop.

4.3. Provisions for continuous professional development

CPD provisions for this group exist only in a minority of countries (Belgium, Bulgaria, Germany, France, Croatia, Italy, Latvia, Hungary, Poland and Slovenia). When they do exist, they are usually related to experience and qualification. For example, in Belgium, in Wallonia, they must have at least 5 years' experience in the profession, unless the tutor has a teaching qualification or has undertaken a tutor training programme, while in the Flemish Community, professional coaches must undertake a 12-hour home training programme. In Bulgaria, there is a special programme for trainer training which aims at offering basic pedagogical and psychological knowledge and skills to mentors; in Germany there are recognised advanced VET qualifications (entitling trainers to take additional tasks), the 'certified initial and continuing education pedagogue' (EQF level 6) and 'certified vocational pedagogue' (EQF level 7). In Poland, training professionals in work-based settings are legally required to have a pedagogical qualification, therefore the courses offering such a qualification became the basic type of training.

Needs analyses (Table 9) are carried out in various ways and only in 10 countries. They can be conducted by initiatives (Austria), VET institutes (ASOO, Croatia; BIBB in form of research projects, Germany), by VET schools (Estonia, Romania, Finland) through teachers' self-evaluation and centrally based on the information gathered through VET teachers' networks (Estonia), specific organisations (skills operator or social and economic committee, France), chambers (Hungary), directorate for education (Iceland) or county authority (Norway) and companies (Romania).

Table 9. **Needs analyses**

Area	Description	Country
Yes, is done	Initiatives	AT
	VET institutes	DE, HR
	VET schools	EE, FI, RO
	Teachers' self-evaluation and teachers' networks	EE
	Organisations	FR
	Chambers of commerce	HU
	Directorate for education, county authority	IS, NO
	Companies	RO
No, not done (or n/a)		BE, BG, CY, CZ, DK, EL, ES, IE, IT, LT, LU, LV, MT, NL, PL, PT, SE, SI, SK

Source: Cedefop.

Various competences are taught in CPD including technical, pedagogical/didactic and transversal competences. Usually, the focus is on pedagogical and didactic competences only, but sometimes also CPD on transversal and technical competences is provided. For example, in the Bulgarian report it is emphasised that provision of CPD on social skills, organisational skills, methodological skills, leadership skills and competences for applying flexible and individual approaches to training, while in Hungary, core competences, information communication competences, professional competences, self-reflections, social and methodological competences are highlighted. In Norway, apart from pedagogical methods and vocational didactics and competence, the focus of CPD provision in 2021, were classroom management as well as student knowledge and tutoring.

Validation and recognition of competences on the job and in non-formal settings for the teaching and training professionals in work-based learning is not possible in most countries. Only in Belgium, Czechia, Denmark, Estonia and France is there recognition or validation of such competences. For example, in Czechia, there is an exam on the vocational qualification Instructor for practical training at a work-site (EQF 5) which validates and recognises the competences acquired on the job and in non-formal settings; in Denmark, it is possible to gain validation of non-formal competences in most formal education settings.

Modes of CPD provision are wide-ranging. They may be conducted either offline (with physical presence), blended or online, and include:

- (a) training programmes;
- (b) seminars;
- (c) workshops;
- (d) validation assessments;
- (e) (short) courses, online courses;
- (f) evening and weekend offers;
- (g) traineeships for trainers;
- (h) study visits;
- (i) training manual;
- (j) guidelines.

Germany offers part-time and full-time seminars, evening and weekend and numerous online courses, mostly combined with in-person sessions, while Finnish teachers and trainers benefit from brief courses in education institutions, training in workplaces and different web-based training. In Latvia, there are traineeships in companies for trainers and study visits, and in Portugal a training manual is offered in addition to guidelines for tutors and programmes for training of trainers. Slovenia has a 32-hour training programme.

The entities responsible for CPD also vary substantially across the countries analysed (Table 10). More frequent models are that VET schools (both IVET and CVET) and chambers are in charge; in other cases, specific national educational agencies and companies have responsibility. For example, CPD is under the responsibility of providers of professional development in Iceland.

Table 10. **Responsible entities for CPD**

Area	Country
VET schools, vocational training centres and colleges	BE, BG, CZ, EE, FI, LT, PL
Chambers of commerce	CZ, DE, HU, LT, SI
Education agencies, national pedagogical institutes, national centres for education	CZ, EL, LV, SE
Companies	FR, PL, RO, SK
Adult education establishments, CVET institutions	AT, DE, FI, RO
National VET agencies, public employment and vocational training service institutes	HR, LT, PT
CPD institutions	BE, IS
Universities and other higher education institutions	BG, DE

Area	Country
Local or regional authority (county, region)	IT, NO
Confederation of employers	LT, LV
IVET trainer colleges, IVET trainer forums	AT
Validation consortia	BE
School headmasters	CZ
Non-governmental organisations	ES

Source: Cedefop.

4.4. Data on trainers in work-based settings

There are often no data collected in the European countries on numbers, qualifications, and CPD of training professionals in work-based settings, (Table 11). Only in eight countries (Estonia, Germany, Italy, Latvia, Luxembourg, Hungary, Slovenia and Finland,) are some data collected; these are mostly the number of trainers, but sometimes also examinations, number of training courses, satisfaction and number of training hours.

Table 11. Data on training professionals, work-based settings

Area	Description	Country
Data available	Number, examinations	DE
	Number, number of training courses	EE
	Workplace supervisors' satisfaction with the support they receive from the training provider to guide and evaluate students	FI
	Training, examinations; on request to chamber of commerce	HU
	Number of company tutors; in a few regions Number of training hours, hours of e-learning	IT
	Number of trainers in IPD	LU
	Number of company tutors	LV
	Number of mentors	SI

Area	Description	Country
No data or n/a		AT, BE, BG, CY, CZ, DK, HR, IE, IS, LT, MT, NL, NO, PL, PT, RO, NO, SK (*)

(*) Note by authors of SK Cedefop/ReferNet article: true concerning CPD, but there are data on the initial training and certification of instructors. These data are fragmented (maintained by respective sectoral assignees) and they are not published in a comprehensive way.

Source: Cedefop.

CHAPTER 5.

Partnerships between schools and companies

5.1. Cooperation between VET schools and companies

This section on the partnerships between schools and companies supporting continuous professional development discusses two topics: first, the formal links between schools and companies providing work-based learning; and second, the extent of coordination between trainers and schools.

Most countries analysed have formal links between schools and companies providing work-based learning. Only in a few countries are there no formal links: such as Austria, Cyprus (except for the memoranda signed with employers' organisations), Denmark, Norway and Sweden. In Germany, training regulations formally link VET schools to training companies which; these are established through a cooperative approach involving the national government, the states, and the social partners.

Among those countries that have formal links, four different types can be distinguished (Table 12). The most common is to have an agreement signed between the different parties, but contracts are also established in some countries. For example, in Bulgaria, a partnership agreement (contract) is signed between a vocational school, vocational college or vocational training centre and one or more employer. In Czechia, the agreement specifies the contents, scope and terms and conditions of practical training. Similarly, in Finland, the apprenticeship agreement or training agreement includes certain obligations regarding guidance and instruction, and agreements in Lithuania are signed between the parties (cooperation agreement, tripartite VET agreement). In contrast, learners, schools and companies sign practical training contracts in Croatia, which is also done in the Netherlands.

Table 12. **Formal links between schools and companies**

Area	Country
Agreement	BE, BG, CZ, EE, ES, FI, FR, LV, LT, PL, RO, SI
Contract	HR, IS, LU, MT, NL, SK
Programme	HU
Protocols	PT

Source: Cedefop.

Within these partnerships, the extent of coordination between trainers and school varies. Exchanges between trainers and schools are usually at the discretion of both parties. When information is available, there is a variety of ways to coordinate. For example, coordination may be defined in internship agreement or apprenticeship contract (in France, Luxembourg, Netherlands, Finland) or by law (e.g. in Slovakia). There are communication exchanges, informal exchanges and needs-based communication (in Estonia, Austria) and trainers and teachers may agree on guidance and instruction (in Finland). Cooperation may extend to more formal roles and tasks, such as being a member of examination boards and having joint projects (in Germany) or in-company practical training instructors may be members of the school's teacher council (in Poland).

In some cases, specific persons perform these tasks:

- (a) in Bulgaria, liaison between the employer, the mentor and the training institution in work-based learning is carried out by a teacher-methodologist;
- (b) in Czechia, instructors usually follow instructions and thematic plans prepared by the school; large employers tend to have a 'head instructor' who is more active in coordinating the activities with school (e.g. participation in events);
- (c) in Slovenia, cooperation between the schools and companies regarding work-based learning is managed by a specific coordinator, a systemised job position at the school. Coordinators take care of the organisation, liaise between the school and company and support work-based learning. Company mentors communicate with the schools through the specific coordinators.

Further examples of close coordination are:

- (a) in Croatia, mentors cooperate in the delivery of the implementation teaching plan and programme of the practical part of the curriculum. School teachers should familiarise workplace mentors with implementation teaching plans, offer support to mentors in teaching methods and pedagogy, deliver part of the practical training in school, visit companies during practical training to assess learners' skills attainment in cooperation with mentors, and monitor

the implementation of the final practical assignment that learners complete in companies;

- (b) Lithuania has joint planning of training in company, composing a schedule for assignments and competences assessment, and cooperation in carrying out evaluation of learners' competences. VET teachers regularly visit enterprises to check the process and support the learner and enterprise staff in solving any practical issues.

5.2. Examples of practice

Various projects have the aim of bringing teachers into companies so that they can have a 'real world' experience and update their knowledge to the newest level. Different networks and councils have also been created to connect the different actors to each other (e.g. employers, VET schools, CPD providers). Courses and training provided to teachers in different places and settings are also frequent. Erasmus+ provides further opportunities for international mobility.

Table 13 details a selection from the extensive list of examples collected by ReferNet.

Table 13. **Selected examples of practice**

Examples of practice	Country
<i>Seitenwechsel</i> initiative: teachers of all school grades (including IVET) change from the classroom to a company for 12 months and then return to their teaching jobs. The special feature of the programme is its duration of 12 months, which enables the teachers to be fully integrated into the company workplace and to gather intensive practical experience.	AT
Scheme for the industrial placement of VET teachers: hands-on practice at selected enterprises for 1 day per week throughout the school year, gaining experience regarding the operation of businesses/enterprises in their sector.	CY
Innovation projects, led by a VET centre in partnership with companies and other entities, with the aim of fostering cooperation through dual education, collaborative work and even the development of R&D&I projects.	ES
Teachers' professional development placements in enterprises and other workplaces: objective is that the teachers have the opportunity to update their vocational skills and improve their working life competences by working in companies or work communities in their own field.	FI

Examples of practice	Country
'Engineers for schools' scheme: consists of detaching engineers and executives from their company in the academies, for a renewable period of 1 to 3 years, so that they can put their professional experience at the service of the education system. Trades and qualifications campuses: aim to coordinate, at a local level, secondary and higher VET institutions with businesses in given economic sectors.	FR
Regional centres of competences: offer professional guidance and training for professionals, VET teachers and workplace mentors, promote teaching excellence, and intensify cooperation with local enterprises.	HR
MKIK organises corporate workshops with the involvement of regional chambers within the framework of a pilot project: vocational trainers in schools can become familiar with the corporate structure, strengthen cooperation between schools and training sites.	HU
Project <i>Con la scuola</i> : aims to improve the link between the world of work and the education-training system, involving 300 teachers and providing to teachers and school managers methodologies and tools to support the acquisition of competences by young people for the transition to work.	IT
Tripartite Sub-Council for Cooperation on VET: allows for an immediate reaction to identified problems or challenges.	LV
Institute for Education has integrated micro-placement modules in two qualifications. Placements can be carried out with employers, NGOs, voluntary organisations and within the public service, public sector and private sector.	MT
New regulation in 2018: obligating IVET schools to cooperate with employers when launching new programmes, introduced obligatory professional training for VET teachers in companies.	PL
Network of partners of excellence for apprenticeships, giving a certificate of recognition to the entities that collaborate with VET centres.	PT
Raising the professional competences of teachers, programme from 2016 to 2022 (DPKU) on implementation and development of a circular employment model; to enable VET teachers to go to workplaces and acquire competences that can contribute to improving the implementation of the pedagogical process, connecting the teaching material in school with current examples from practice.	SI

Source: Cedefop.

5.3. Hybrid teachers and trainers

Regulation on hybrid trainers seems to exist only in Belgium and Hungary (Table 14). In Hungary, legislation targets the employment of hybrid teachers.

However, hybrid trainers are much more common in practice in European countries, being present in around half of ReferNet countries (Austria, Belgium, Bulgaria, Czechia, Estonia, France, Germany, Hungary, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal). In Belgium trainers are 'hybrid' trainers in

public dual training organisations, while in Bulgaria it is possible for VET schools to hire part-time lecturers who also work at companies or universities. In the German State of North Rhine Westphalia, there is a programme with the possibility of part-time teaching at vocational schools (alongside a job in the industry) mutually agreed. In Estonia, many vocational teachers also work part-time in schools while working at an enterprise or being entrepreneurs themselves. VET schools in Malta reserve the right to employ part-time lecturers who also work in parallel with industry.

However, there is information on specific requirements only in 5 countries (Belgium, Czechia, Hungary, Latvia, Malta). For example, in Czechia the workload must not exceed half of the weekly working hours, and hybrid teachers must continue their professional activities in the field. In Hungary, corporate professionals learn the required pedagogical methodology by completing training courses. Similarly, in Latvia, if the professional does not have the required pedagogical competence, there is the possibility to follow a 72- hour training course.

Specific initial training programmes preparing hybrid teachers and trainers or specific requirements for their CPD do not (yet) exist in Europe.

Table 14. **Hybrid teachers**

Area	Country
Regulation exists	BE, HU
Done in practice	AT, BE, BG, CZ, DE, EE, FR, HU, LT, LV, MT, NL, NO, PL, PT
Requirements	BE, CZ, HU, LV, MT
IPD for hybrid trainers	---

Source: Cedefop.

5.4. Data on cooperation and hybrid teachers

Most countries have no data on cooperation between schools and companies on supporting CPD, nor on hybrid teachers. In most cases, information on such data is not available (in 24 out of 29 countries). An exception is Estonia, which is the only country with data on both. Bulgaria, Italy and Romania have or will soon have data on cooperation, but not on hybrid teachers, as will Hungary at some point in the future. In other words, data on hybrid teachers is virtually non-existent (except for Estonia). This shows that there is a strong need for more information in these areas to understand better how the situation is in each country.

CHAPTER 6.

National and EU-funded projects and initiatives

6.1 Digital skills for remote and blended teaching

The school and policy initiatives on digital skills and remote and blended teaching and learning in the European countries can be divided into the technical part (tools), theoretical part (frameworks) and support measures.

Tools include e-learning platforms, electronic libraries, self-assessment tools, open educational resources (OER) platforms, education management applications, makerspace and 3D applications (see Box 5 for an example and Table 15 for an overview). These tools are for practical applications, while many countries have also developed or are using various frameworks and concepts.

There is also a wide variety of support measures, ranging from digital strategies, plans and guidelines, funding, the creation of dedicated organisations, conferences, new textbooks and materials, adaptation of VET programmes, vocational qualifications and standards, CPD programmes for teachers, the creation of dedicated centres and specific schemes, as well as research initiatives.

Box 5. Example: Finnish tools and resources

- Digital competence badges for basic digital skills (nationwide open badge constellation) has teaching and guidance staff as target group, as well as students.
- The Library of Open Educational Resources provides learning material for more than 820 VET qualifications.
- eOppiva is an online learning platform offering courses free of charge and webinars on artificial intelligence.
- using digitalisation in distance learning and in the development and acquisition of learning. There is support material for the provision of VET and for cooperation with workplaces in emergency conditions, and on different ways of implementing distance learning and on the developer networks and communities in VET.

Source: ReferNet thematic perspectives: Finland.

Table 15. **Digital skills**

Area	Description	Country
Tools and resources	<ul style="list-style-type: none"> • E-learning training systems • Educational content bank • Digital competence badges • Digital Resources Bank of Good VET Practices • Digital school awards • Distance learning camps • Library of Open Educational Resources • Newsletters • Online clinics • List of digital literacy programmes for teachers • Methodological portal • Open or online (learning) platforms • Resource pages for digital teaching • (Pilot of) SELFIE tool (see also Box 6) • SELFIE for Teachers pilot • Self-evaluation tools • Signpost with remote learning tools • System of registration and studies • Technical helpline • Website for distance learning, 	CZ, DE, ES, FI, HR, HU, IE, IS, IT, LT, LU, LV, NO, PL, PT, RO, SI
Frameworks and concepts	<ul style="list-style-type: none"> • European DigComp Framework (see also Box 7) • National competence models for digital skills for educators • New frameworks of reference • Methodological benchmarks • VET school institutional frameworks 	AT, BE, ES, LU, MT, RO
Digital strategies, plans and guidelines	<ul style="list-style-type: none"> • Digital strategies for compulsory education • New funding guidelines • Guidelines for school organisers, school leaders, and teachers • Ministerial decisions • National recovery and resilience plan • National initiative for digital competences • Regional strategies for the promotion of technical and technological occupations • School informatisation programme • Skills investment plans 	BE, DE, EL, FR, IT, NO, PT, SE, SK
Funding	<ul style="list-style-type: none"> • Funding programmes 	DE, IE
Organisations and networks	<ul style="list-style-type: none"> • Associations providing digital services and resources • Digital coalitions • Learning communities • VET teachers' networks 	EE, NL, PT, SK

Area	Description	Country
Conferences and workshops	<ul style="list-style-type: none"> Digital thematic week: promote and disseminate digital pedagogical methodology in education 	HU
Adaptation of VET programmes, qualifications and standards	<ul style="list-style-type: none"> Digital change qualification initiative Reform and upgrading of curricula 	CY, DE
CPD programmes for teachers	<ul style="list-style-type: none"> Blended learning course Case studies, series of webinars Continuing pedagogical development on digital education Distance e-seminars Digitalisation in guidance and support services Intensive online teacher training courses Introductory guides to blending course MOOCs Online teacher training programmes, qualification programmes and training on the use of digital technologies Remote learner's course Training in Microsoft Teams and Moodle 	BE, BG, CY, EL, ES, FI, IE, LU, LV, MT, PL, RO
Centres and schemes	<ul style="list-style-type: none"> National Centre of Competence 	AT
Research	<ul style="list-style-type: none"> Organisation of a survey in schools SELFIE tool: representative survey 	ES, RO

Source: Cedefop.

Box 6. EU digital competence tools for VET schools: SELFIE

SELFIE for VET

The SELFIE tool for VET has been developed to support VET schools on their new digital journey, providing a snapshot of where they stand and giving a voice to the whole school community, including students, on what can be done for more effective use of technology for teaching and learning.

The SELFIE tool is available for various education levels: primary, lower and upper secondary general, upper secondary VET and post-secondary non-tertiary education. Cedefop and the European Training Foundation (ETF) have contributed their expertise to assuring the questionnaire's relevance to the specific needs of VET schools.

Cedefop and the ETF have assessed that the questionnaire for general upper secondary schools only needs some small changes to fit well into the VET sector.

SELFIE for work-based learning

VET schools can use the SELFIE tool within their institutions. Many VET schools also provide opportunities to their learners to obtain skills and gather experiences in the workplace, in short, work-based learning. Given the relevance of WBL for students, VET schools and policy makers, an extended SELFIE tool – involving school leaders, students and teachers and trainers in both school- and work-based settings – supports the better functioning of these WBL schemes. It provides valuable information to VET schools and employers on where they stand in the use of digital technologies for teaching and learning and how they can improve cooperation between them. Therefore, following a feasibility study in 2019 (Broek and Buiskool, 2020) and pilots in nine European countries ⁽⁷⁾ in 2020 (Hippe; Brolpito and Broek, 2021) that were also supported by Cedefop, SELFIE for work-based learning (European Commission, 2022d) was launched in October 2021 (European Commission, 2021a). It includes a new questionnaire for in-company trainers that supports students during their time with employers. Additional support materials have been designed to fit more specifically to the needs of VET schools and employers. So far, it has been used by more than 5,000 users from six countries since its official launch. SELFIE WBL is available in more than 39 languages and ready to be used by any VET school and company.

The next steps for SELFIE WBL focus on supporting the digital transformation of the VET sector and the role that it can play in this sense, together with achieving better and deeper involvement of the company sector in this process.

Box 7. The EU digital competence framework

For more than a decade, the Digital competence framework for citizens (DigComp) has provided a common understanding, across the EU and beyond, of what digital competence is, and therefore provided a basis for framing digital skills policy. There is already a high awareness of DigComp as the EU-wide framework for developing and measuring digital competence. Going forward, DigComp can also play a central role in achieving our ambitious EU objectives with regard to the digital upskilling of the whole population and in developing a European digital skills certificate. In the Digital Compass for Europe's digital decade, the EU has set the ambitious policy targets of reaching a minimum of 80% of the population with basic digital skills and having 20 million ICT specialists by 2030. The first of these targets is also taken up by the European Pillar of Social Rights action plan. Since its adoption, DigComp has provided a scientifically solid and technology-neutral basis for a common understanding of digital skills and framing policy. However, things move fast in the digital sphere and a lot has happened since the framework was last updated in 2017. More specifically, emerging technologies, such as artificial intelligence, virtual and augmented reality, robotisation, the internet of things, datafication or new phenomena such as misinformation and disinformation, have led to new and increased digital literacy requirements on the part of the citizen. There is also an increasing need to address the green and sustainability aspects of interacting with digital technologies. Thus, the updated DigComp 2.2

⁽⁷⁾ See also the pilot country reports (Labadze; Brolpito and Hippe, 2021; Marjanovic; Brolpito and Hippe, 2021; Proenca et al., 2021a, 2021b, 2021c, 2021d; Sandulescu and Hippe, 2021; Scekcic; Brolpito and Hippe, 2021; Yildirim; Brolpito and Hippe, 2021).

framework provides more than 250 new examples of knowledge, skills and attitudes that help citizens engage confidently, critically and safely with digital technologies, and new and emerging ones such as systems driven by AI. The framework is also made available following the digital accessibility guidelines, as creating accessible digital resources is an important priority today. It also gives a snapshot of the existing reference material for DigComp, consolidating previously released publications and references.

Source: Slightly adapted from Vuorikari; Kluzer and Punie (2022).

There are many digital initiatives, programmes and projects in the different European countries (see Table 16 or a brief overview and Annex 1 for a description of the projects).

Table 16. **Selected digital initiatives, programmes and projects**

Description	Country
<ul style="list-style-type: none"> • Digisprong • EPED project • Start digital project • Toll-Net 	BE
<ul style="list-style-type: none"> • Education for tomorrow project • Science and education for smart growth 201420 	BG
<ul style="list-style-type: none"> • Actions on opening up education • Assessment of transversal skills in STEM • Digital competences development for educators (DCDE) • European competitive programmes for innovative learning projects • Programmes for a safer internet for children 	CY
<ul style="list-style-type: none"> • PRIM project • SYPO project 	CZ
<ul style="list-style-type: none"> • ÜBS digitalisation programme 	DE
<ul style="list-style-type: none"> • Digital focus programme • Online self-assessment tool DigiPeegel (Digital mirror) 	EE
<ul style="list-style-type: none"> • Spanish National Support Service eTwinning actions 	ES
<ul style="list-style-type: none"> • Call for proposals Deffinum 	FR
<ul style="list-style-type: none"> • E-schools • Training for skills in virtual environment (T4SVEN) 	HR
<ul style="list-style-type: none"> • Project development of VET and lifelong learning information systems and registers in 2017-22 	LT
<ul style="list-style-type: none"> • SO 8.5.3 project 	LV
<ul style="list-style-type: none"> • Digital VET readiness project 	NO

Description	Country
<ul style="list-style-type: none"> IT school project Lesson: enter project Support for in-service teacher training institutions and pedagogical libraries in the implementation of tasks relating to the preparation and support of teachers in conducting distance education project 	PL
<ul style="list-style-type: none"> IDC-VET: Improve digital competences of VET teachers and trainers project 	PT
<ul style="list-style-type: none"> Call to develop a collection of examples of online lessons, tests, exercises, tools to be used both by teachers and students in IVET 	RO
<ul style="list-style-type: none"> BlendVET project Strengthening competences of professional workers in the field of managing an innovative educational institution project 	SI
<ul style="list-style-type: none"> IT Academy project 	SK

6.2 Green skills for sustainability

European countries also have many different options and approaches to how to prepare trainers and learners for the integration of the green dimension in VET (Table 17). First, countries have devised and implemented (national) education plans and programmes that explicitly integrate green skills in the national VET strategy. Specific VET schools have been created that have a focus on the UN's sustainable development goals (SDGs); cooperation between VET schools and ecological education centres and other NGOs working in the field have been encouraged. VET programmes and qualifications have also been adapted to include the 'green' dimension and to teach green skills, to whose end also the curricula have been revised and updated. All of this is supplanted by new professional development activities targeting teachers' competences to teach green skills. More specifically, a range of training courses for teachers, webinars, conferences, and dedicated web portals with relevant information for trainers on sustainable development and green skills have been created. In addition to this, new programmes have been elaborated that also aim to train teachers in supporting in-company trainers' green skills development.

Table 17. **Green skills**

Area	Description	Country
Education plans	<ul style="list-style-type: none"> • No national strategy for development of green skills. 	BG
	<ul style="list-style-type: none"> • Environmental education action plan, adding environmental and sustainable education as a basic principle for initial teacher training and in their lifelong learning annual plans. 	ES
	<ul style="list-style-type: none"> • Green skills action programme: will include a skills focus on areas such as nearly-zero energy building, retrofitting and specific skills for bricklaying, carpentry, electrics, plastering and plumbing. • Green skills development plan, ensuring that learners are equipped with the environmental awareness and green skills that can drive future change; also build capacity for green apprenticeships. 	IE
	<ul style="list-style-type: none"> • Integrated strategic actions, foreseen in the framework of the 2030 Agenda for education for sustainable development. 	IT
	<ul style="list-style-type: none"> • National environmental policy 2030 – development strategy in the field of environment and water management. 	PL
	<ul style="list-style-type: none"> • Policy paper Greener Slovakia: strategy of the environmental policy of the Slovak Republic until 2030: offers only a framework for measures to be adopted for improvement of environmental education in formal education. 	SK
VET schools	<ul style="list-style-type: none"> • VET schools with special focus on UN SDG. 	DK
VET programmes and qualifications	<ul style="list-style-type: none"> • Basic degree on environmental education for sustainable development by Ministry of Education. 	AT
	<ul style="list-style-type: none"> • Adoption of ecological education standards. 	BG
	<ul style="list-style-type: none"> • Adaptation of diplomas and qualifications to the challenges of green transition. • Training programmes to be qualified in new green trades. 	FR
	<ul style="list-style-type: none"> • Courses in sustainable energy, sustainable development, wind turbine engineering and retrofitting. 	IE
	<ul style="list-style-type: none"> • Citizenship competence aims to develop environmental awareness. 	LT
	<ul style="list-style-type: none"> • New diploma course at EQF\MQF level 4 Climate-friendly travel. 	MT
	<ul style="list-style-type: none"> • Inclusion of innovations into the qualifications framework, for instance on energy transition. 	NL
	<ul style="list-style-type: none"> • IVET programmes that lead to distinctive qualifications falling within the 'green skills' field. 	RO

Area	Description	Country
	<ul style="list-style-type: none"> Modernised sales and service upper secondary programme to provide retail-specific content concerning sustainability and digital competence. 	SE
Curricula	<ul style="list-style-type: none"> Specific commission on education reference frameworks and programmes: puts sustainable development at the heart of curricula. Sustainable development (SD) part of compulsory education and is a key skill. 	BE
	<ul style="list-style-type: none"> Green skills curricula: promote the learner's ability to perform their professional activities in accordance with SD. 	LV
	<ul style="list-style-type: none"> Introduction of sustainable development as an interdisciplinary subject in primary and secondary education. 	NO
	<ul style="list-style-type: none"> Emphasis of SD in revised curricula. 	SE
Teachers' PD	<ul style="list-style-type: none"> Courses on SD, green skills, environmental education, climate protection. 	CY, HU, LU, LV, PL
	<ul style="list-style-type: none"> Specialisation studies for school coordinators of environmental education, guidance and awareness are a prerequisite for the inclusion of the coordinator in the relevant salary grade and the granting of a specialisation bonus. 	CZ
	<ul style="list-style-type: none"> Transfer programme for training staff to support in-company trainers to develop green and sustainable skills. 	DE
	<ul style="list-style-type: none"> Teacher training in green skills, notably through the organisation of VET teacher conferences and webinars, sector-specific training, and teacher training web portal. 	HR
	<ul style="list-style-type: none"> National sustainable entrepreneurial schools label: training was offered to teachers. 	LU
Tools	<ul style="list-style-type: none"> Guides on SD. 	FI
	<ul style="list-style-type: none"> National web platform dedicated to sustainable development education: proposes activities in relation to ESD and offers didactic material and to allow the elaboration of interdisciplinary educational projects. Sustainable entrepreneurial schools' online platform: offers teachers the possibility to discover activities to encourage learners to find their way in a world that is constantly changing and in which sustainable and creative thinking is increasingly important. 	LU
	<ul style="list-style-type: none"> VET schools share learning materials on green skills/sustainability topics, but also suggestions for sustainable school management via a dedicated website hosted by DMBO. 	NL

Area	Description	Country
	• Educational package Friends of the climate: aimed at familiarising students with climate protection and activities for adaptation to climate change.	PL
	• Website to help VET teachers in their work with sustainability in the classroom.	SE
Institutes, networks and cooperations	• Observatoire du qualifiant, des métiers et des technologies: begun work on the occupations of the ecological transition (putting forward a new approach to the vocational training offer).	BE
	• Network of environmental education centres.	CY
	• Schools usually cooperate with ecological education centres, other NGOs, which provide services in continuing education.	CZ

Source: Cedefop.

Many projects on sustainable development and skills have been created, including a range of Erasmus+ projects (Table 18). But VET teachers also take the initiative on their own in this area to conceive and implement 'green' projects. Various tools, websites and supporting materials have been created, providing good practices, relevant publications, guides and assembling available activities to support sustainable development.

Table 18. **Green skills projects**

Description	Country
Greenovet: Skills for a green Europe, a centre of vocational excellence (CoVE). The project will train more than 100 teachers to provide excellence in teaching environment-related professional and key competences.	AT, FI, PT
Eco-school programme: innovative nature is reflected in three aspects (pedagogical, social relations, and technical/economic).	HU, IS
Specific projects by VET teachers.	BE
Green ideas for tourism for Europe project: educational tool was created aimed at presenting best practices, green labels, publications, and providing illustrations of how cultural and natural heritage of European tourism could be preserved.	BG
SYPO project: methodological cabinet represents a form of support, sharing experiences and peer development among schools.	CZ
VET for sustainable development projects (BBNE): experimented and evaluated relevant curriculum concepts, digital teaching, learning materials and examination questions on green skills for initial and continuing VET.	DE

European platform for urban greening: aims to increase the knowledge and skills required to address biodiversity, climate adaptation and wellbeing in the urban, green living environment.	FI
VET Schools of the 21st Century development programme: create an educational environment that operates with attractive, intelligent and environmentally sustainable solutions that enable modern education.	HU
Strengthening the ability of students and graduates of VET institutions to learn at the workplace: pays considerable attention to the possibility for VET teachers to improve ecological as well as technological 'learning in action' competences.	LT
Green VET for SDG: Aligning VET curricula to greening and the sustainable development goals (SDG) project: supporting individuals in acquiring and developing basic skills and key competences in greening; addressing sustainable investment, performance and efficiency.	MT
BuS.Trainers: to identify and fill green skills gaps for trainers providing energy efficiency and renewable energy sources training in the construction industry.	PT
Strengthening competences of professional workers in the field of managing an innovative educational institution project.	SI
Improve the efficiency and the attractiveness of environmental engineering and waste management training with game based virtual reality (VR-WAMA): aims to develop a training platform containing a game-based 3D virtual reality educational environment to assist VET students to learn better and teachers to teach more efficiently in the field of environmental engineering and waste management.	SK

6.3 Preventing early leaving from VET

Learners at risk of early leaving often present distress signs long before they leave. If these signs are detected promptly, there are more chances of re-engaging young people with relatively simple interventions. An early intervention allows for better results with fewer resources. Each learner is different and so are his or her ways of showing that something is not going well. Absenteeism, low academic attainment, and disruptive behaviour in the classroom are often linked to potential dropout. Other signs such as emotional distress can easily go unnoticed.

Practitioners are best placed to recognise distress signals and spot pupils at risk as they are in direct and regular contact with them and they track absenteeism and academic attainment in their daily work. However, they often do not have the ability, time or resources to identify and act upon signs of risk. The use of a systematic approach by VET teachers and trainers to identifying learners at risk of early leaving is the first step to tackling early leaving, as seen in [Cedefop's VET toolkit for tackling early leaving](#).

Several EU+ countries have developed initiatives or projects with a VET teacher training component on how to tackle early leaving from VET. For example,

in Austria, there is the possibility of completing a master degree in teaching VET at secondary level with a focus on inclusive or integrative VET. In addition, the *Lehre statt Leere* programme focuses on coaching for apprentices and coaching for training companies.

In Czechia, inclusive learning opportunities are offered to teachers. There are various accredited courses focused on motivating students to engage in schoolwork, or acquire the professional qualification of Career counsellor. There is also the option of studies for performing specialised activities in prevention of socio-pathological phenomena.

In Spain, there is a programme for educational guidance, advancement and enrichment called PROA+ aiming at supporting education centres to improve the quality of education and school results, avoid early school leaving and reduce social exclusion.

France has a training scheme for teachers and school staff through which they can acquire the necessary skills and strategies to prevent dropout.

Italy produced a National plan for teacher training 2016-19, which provided for an in-service training intervention for coordinators of processes and teachers that implement didactic activities dedicated to students with disabilities or SEN.

In Lithuania, the 2019-21 project Combating early school leaving and improving the quality of teaching is managed by Kaunas Technical Vocational Education Centre and is aimed at the CPD of teachers.

In Luxembourg, secondary schools can address the Training Institute of National Education (IFEN, Institut de formation de l'éducation nationale) and the CePAS (Centre for psychosocial and educational support) requesting them to devise a tailor-made coaching and training system for school retention and dropout prevention aimed at multidisciplinary teams.

In Norway, an EU-funded project for VET teacher and trainer professional development (Neurodivergent) is in place. The aim of the project is to create a functional training programme for VET trainers, so that they can optimise the learning outcomes for VET students with Asperger syndrome.

In Portugal, the Erasmus+ Quali4all project focuses on enabling teachers and trainers to deal with learners at risk.

In Slovenia, VET teachers have the opportunity to attend various non-formal programmes to gain competences to support learners at risk better.

It is evident that all analysed countries focus on VET teacher training for tackling early leaving and supporting learners at risk. Table 19 summarises all thematic areas addressed within the context of initiatives and/or projects on inclusiveness at national level, showing that EU+ countries' visions of inclusiveness address several aspects and multiple actors, including both teaching

and training and non-pedagogical staff. Guidance and counselling for supporting learners at risk play an important role for both preventing and counteracting early leaving, as shown in Cedefop's related work (Psifidou et al., 2022). More details on the specific projects/initiatives by area are available in Annex 2.

Table 19. **Supporting learners at risk, thematic areas of projects and initiatives**

Area	Countries
Teacher training	AT, CZ, ES, FR, IT, LT, LU, MT, NO, PT, SI
Guidance/Counselling	DK, ES, FI, HR, LU, PT, SE, SK
Early leavers and NEETs	EE, FR, HR, MT, NL, SE, SI
Refugees/Migrants	CY, DE, FI, IT, MT, RO, SE
Young people with disabilities/SEN	IS, MT, NL, NO, PL, RO, SE
Alternative pathways and/or second chance measures	BE (Flanders), HU, MT, PT, RO, SI
Linking to labour market/dual education and/or apprenticeship	BG, ES, NL, SK
Cooperation and networking	CY, EE, LV
Mental health support	FI, PT
Volunteering	DE

Source: Cedefop.

Eight EU+ countries have specific projects and/or initiatives that aim to prepare teachers and trainers to work with and integrate refugees. Making VET inclusive for refugees has become even more important within the context of the war in Ukraine. As pointed out also in Cedefop's VET toolkit for tackling early leaving, the large wave of refugees in Europe fleeing from war-torn Ukraine is an unprecedented challenge for VET teachers and trainers (Psifidou and Treves, 2022a). Germany's approach of apprenticeship is an interesting one, as it combines two key elements: volunteering and integration of refugees. Germany's VerA project, together with other projects from EU+ countries targeted to refugees, can be consulted as part of the good practices featured by Cedefop's VET toolkit for tackling early leaving (Cedefop, 2022p). A detailed description of Germany's focus on volunteering and refugees through apprenticeships is provided in Box 8.

Box 8. Germany: focus on volunteering and refugees

VerA individual coaches are retired professionals (e.g. former in-company trainers), who volunteer to support apprentices facing problems and at risk of dropping out of VET, until successful completion of their training. Apprentices, parents, trainers and companies, VET teachers and vocational schools, training guidance of the chambers or employment agency can contact the VerA team (Huismann, 2018).

To equip trainers in supporting the specific target group of young refugees in apprenticeship, the Chambers' portal for trainers, *Stark für Ausbildung* (Strong for apprenticeship), addresses intercultural aspects for in-company trainers, focusing on refugees. For example, the portal offers a comprehensive trainer manual with modules on integrating refugees into apprenticeship, webinars on the subject and the online CPD for trainers Integrating refugees in and through apprenticeship. The Chambers association (DIHK) also has a podcast Be a mentor (*Sei ein Mentor*) for in-company trainers since July 2020. In October 2020, the focus of the podcast was on communication with refugee apprentices during the corona crisis. The BIBB portals www.foraus.de and www.überaus.de are also promoting the intercultural competences of in-company trainers.

Source: Cedefop ReferNet thematic perspectives, 2022: Germany.

In the aftermath of the pandemic, and within the context of increased refugee flows from Ukraine, psychosocial support to learners becomes particularly important. VET cannot be separated from learners' individual needs and challenges, including major ones such as post-traumatic stress syndrome (PTSD). VET providers should work to guarantee each student the right support and specific attention to improve his/her education process. Mental health and wellbeing are among the initial factors influencing students' learning paths.

The Cedefop VET toolkit for tackling early leaving, and specifically its Psychosocial support intervention approach, show that early leaving from VET can be caused by health issues, psychosocial problems or experiences of trauma which are not handled with appropriate care and attention. For this reason, it is important to develop modern methods and approaches to provide effective psychosocial support throughout the education process. Box 9 presents Finland's focus on this area.

Box 9. Finland: focus on mental health

Projects that support the competences of teachers receive funds from the Erasmus+ programme.

(a) Overcoming student challenges & aiding retention, Erasmus+ strategic partnership KA202 project (2019-22):

The project aims to identify best practice in how organisations across the EU tackle the issue of student dropout through having mental health challenges. It also aims to take

a wider view through the approach of identifying ways of enhancing positive wellbeing, as well as improving systems in mental health challenges. The best practice approach will arise from research and the synthesis of ideas into a trainers' toolkit that will be developed based on a common set of standards but customised by each partner for their own territory.

(b) Dropping the baggage – Investing in the future, Erasmus+ strategic partnership KA202 project (2020-23):

Teachers, teacher's assistants, job coaches, study coaches (= teachers) who are open-minded and non-judgemental can challenge students in a positive way and help them 'drop their baggage'. Dropping the baggage is a project that will focus on developing tools that will help teachers encourage students to drop their negative baggage, take ownership of their learning and develop hidden strengths that will help them succeed in working life and in life in general. The project aims to change existing mindsets, ways of educating and teaching and making teachers facilitators of learning in a way that encourages students to open their minds to the way they look at their own role in the learning process.

Source: Cedefop ReferNet thematic perspectives, 2022: Finland.

Sustainable cooperation is a key element in a comprehensive and inclusive approach to VET, also in alignment with the Community involvement intervention approach included in the Cedefop VET toolkit for tackling early leaving. As illustrated by countries and by the Cedefop toolkit, a comprehensive response to early leaving from education and training requires action from the entire VET community. This includes VET institution leaders, teaching and non-teaching staff, trainers, parents and families. This requires VET institutions to cooperate with companies, other external stakeholders and the wider community. Latvia's focus on sustainable cooperation is provided as a relevant example in Box 10.

Box 10. Latvia: focus on sustainable cooperation

The State education quality service (IKVD) is responsible for the implementation of the European Social Fund Project No 8.3.4.0/16/I/001 Support to reduce early school leaving (PUMPURS) to reduce the number of learners dropping out. The project runs from 2017 to 2022. More than 80% of local municipalities are involved, with 665 general and vocational education institutions.

The project promotes the development of a system of sustainable cooperation between the municipalities, education institutions, teachers, support staff and parents or representatives of learners, to identify in good time learners at risk of early leaving manner and provide them with personalised support.

Teachers are given the opportunity to improve and strengthen their professional skills in working with learners. Methodological tools have been developed within the project, as well as a unified database to ensure regular exchange of information at the level of the state, local government and education institution about the preventive measures taken and their results for learners who have been identified as being at risk of dropping

out. It also provides comprehensive statistics and allows for long-term evaluation of the effectiveness of measures.

Source: Cedefop ReferNet thematic perspectives, 2022: Latvia.

Several countries place special emphasis on the (re)integration of early leavers and NEETs in VET and on the preparation of teachers and trainers. Second chance measures are included as an intervention approach in Cedefop's VET toolkit for tackling early leaving (Cedefop, 2022o). Second chance measures can take different forms. Some provide another chance to acquire a formal qualification while others do not lead directly to a formal qualification or can be offered as part of activation efforts of the public employment services. Box 11 features Malta's focus on second chance measures.

Box 11. Malta: focus on second chance measures

The *Strategic plan for the prevention of early school leaving in Malta 2014* (Ministry of Education and Employment, 2014b) included compensatory measures to provide second chance education opportunities. These included a number of programmes with a VET component. Among them, the Alternative learning programme (ALP) launched in 2013/14 that offers a VET-oriented second chance to 15 to 16 year-olds, still in compulsory education who are at risk of becoming early leavers or NEETs. The ultimate goal is to prepare learners for employment with the requisite skills and practices, while laying the groundwork for those who wish to continue studying. The programme includes an additional year called ALP+ for 16-year-olds who want to stay on and develop in a specific vocational area leading to MQF 3.

Youth.inc is another second chance full-time programme (EQF/MQF level 1 and 2) with a strong VET component incorporating a work placement. It is run by the national youth agency and aimed at young people aged 16 to 21 having completed compulsory education without acquiring basic subjects. In 2016, an EQF/MQF level 3 programme was developed.

Source: Cedefop ReferNet thematic perspectives, 2022: Malta.

CHAPTER 7.

National surveys of teaching and training populations

This chapter investigates whether national surveys of the teaching and training professionals in schools and companies offering work-based learning took place in EU+ over the past 5 years or are planned to take place in the near future.

In 11 EU+ countries (Belgium, Denmark, Ireland, Greece, Spain, Cyprus, Malta, the Netherlands, Portugal, Slovakia and Sweden), no surveys of VET teaching and training professionals were conducted in the past 5 years. However, in Greece, there are annual national reports on VET, and in Sweden, studies are carried out regularly. In Slovakia, national surveys were conducted every 5 years in the past, but the 2019 survey was interrupted and there has been none since then. In Malta, the only available data are drawn from TALIS.

The remaining 18 EU countries (Austria, Bulgaria, Croatia, Czechia, Germany, Estonia, Finland, France, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Romania and Slovenia), have surveys of VET teachers and trainers. However, in Austria, there are few, while in Bulgaria they are not conducted systematically. In Czechia, national surveys cover all types of education without a specific focus on VET. In Norway, there is only one survey, which is based on TALIS. In Romania, the relevant surveys are not publicly available.

Table 20 provides an overview of the national surveys conducted by country. More details on the specific projects/initiatives by area are provided in Annex 3.

Table 20. **Thematic focus of national surveys**

Area	Countries
<ul style="list-style-type: none">• Evaluation of induction period• Structural data on teachers and trainers• Challenges and changing competences for IVET trainers	AT
<ul style="list-style-type: none">• Mismatches between CPD needs and available programmes	BG
<ul style="list-style-type: none">• Status of teaching staff (not focused on VET)	CZ
<ul style="list-style-type: none">• Adequacy of ordinance on trainer aptitude for challenges facing in in-company training• Situation of training staff in apprenticeship• Professionalisation of VET teachers	DE

Area	Countries
<ul style="list-style-type: none"> • Training and supervision of in-company trainers • Evaluation of the provision of training • Annual satisfaction survey of VET students and teachers • COVID-related distance learning experiences • Tandem training in WBL • Satisfaction surveys of learners and teachers in VET 	EE
<ul style="list-style-type: none"> • COVID-19 • Impact of latest reform of VET 	FI
<ul style="list-style-type: none"> • Annual social report of Ministry school teaching staff • Access to continuing education for teachers 	FR
<ul style="list-style-type: none"> • CPD • Digital competences, distance teaching and learning during COVID-19 	HR
<ul style="list-style-type: none"> • Data on VET teachers and trainers • Situation assessment 	HU
<ul style="list-style-type: none"> • Effects of COVID-19 on upper secondary school work • Studies on teaching and training populations • Linking learning at school with work 	IS
<ul style="list-style-type: none"> • Quality of VET system • CPD projects • Profile of VET trainers 	IT
<ul style="list-style-type: none"> • CPD demand • Foreign languages and teaching skills • Assessment of digital curriculum and teachers' needs for resources • Assessment of content and changes of teachers' work 	LT
<ul style="list-style-type: none"> • Periodic evaluation of IPD and CPD programmes • Online offer to trainees • Teachers' and learners' wellbeing 	LU
<ul style="list-style-type: none"> • Competence-based education requirements for teacher education • Work-based study programme for teacher training 	LV
<ul style="list-style-type: none"> • Mapping of PD among VET teachers 	NO
<ul style="list-style-type: none"> • Surveys of VET teachers (training needs, competences, work environment, training interests) • COVID-19 (survey of VET schools on digital tools needed) 	RO
<ul style="list-style-type: none"> • School-enterprise cooperation • CPD • COVID-19 (use of digital technologies by teachers and students and wellbeing of the two groups) 	PL

Area	Countries
<ul style="list-style-type: none"> • Evaluation of pilot project on entrepreneurship and self-initiative among young people • Educational individualisation in VET • Competences of VET teachers • Evaluation of challenges in apprenticeships • Evaluation of implementation of WBL in 2019/20 school year 	SI

Source: Cedefop.

CHAPTER 8.

Concluding remarks

This synthesis report provides new insights into VET teachers and trainers working in a changing world. The aim of this report has been to provide a better understanding of VET teachers' and trainers' types and roles, as well as the design and delivery of IPD and CPD in both school-based and work-based environments. It was beyond the scope of this report to compare countries, to evaluate their progress or to assess the effectiveness of specific actions or policies: definitions and understandings of the role of teaching and training professionals vary considerably among EU countries, raising implications for a comprehensive comparative analysis. Instead, the report builds typologies of VET professionals working in initial VET and identifies important trends in the organisation of their initial and continuous professional development. These may be summarised in the following key policy messages.

- (a) Understanding the different types and roles of VET teachers and trainers may support policy-makers and education and training providers to tailor IPD and CPD better to their needs. There are diverse types of IVET teachers and trainers, differentiated according to subjects to be taught, learning dimensions, roles, tasks and learning settings. The wide variety of IPD and CPD specifics across EU+ countries reflects different needs and different realities in different countries.
- (b) In times of rapid change, creating the conditions to encourage more people to opt for a 'dual career' becoming 'hybrid' teachers and trainers (i.e. people who work in parallel in VET institutions and companies), may be a promising way to acquaint VET learners and fellow teachers and trainers with state-of-the-art technologies, working methods and skills. Very few countries have legal provisions or specific CPD for 'hybrid' teachers and trainers, though this type exists in practice in many countries. These teachers and trainers have the potential to respond to one of the main challenges raised by countries, by strengthening the link between VET programmes and the labour market. They could efficiently contribute to stronger cooperation arrangements between VET schools and companies in a more structured and consistent manner. Hybrid teachers and trainers can bring the necessary innovation to school-based environments and can address the growing shortage and ageing population of vocational teachers. The concept offers interesting career perspectives for individuals and provides benefits to both schools and companies, such as sharing salary costs.

- (c) This report shows that there is potential to improve quality and diversity in the provision of IVET teachers' and trainers' CPD. A way to do so is through needs analyses. Within the context of CPD processes, VET teachers and trainers become adult learners themselves: their experiences and preferences matter and should be taken into account. Needs analysis are conducted in school-based VET systems in almost all EU+ countries, but only in few countries for trainers employed in work-based settings. In both cases, few countries link them to evaluation or appraisal as part of the entire CPD process. This is particularly important as VET systems and types of teachers and trainers are diverse and needs may differ significantly within and among countries. A (self-) evaluation component could contribute to the design of tailor-made CPD programmes, better responding to the needs expressed by teachers and trainers.
- (d) Policy-makers may need to give additional incentives to encourage VET professionals in work-based settings to participate in CPD activities not only for further developing their technical skills but also their pedagogical and tutoring competences. Exchange of CPD settings involving training of VET teachers in companies and training of VET trainers in schools would be mutually beneficial in addressing their needs. Based on this report's findings, only a minority of countries have specific CPD provisions for VET professionals in work-based settings, which are usually related to experience and qualification.
- (e) CPD for VET teachers and trainers working in school-based settings is mandatory in the majority of EU+ countries, to ensure that they will have the opportunity to update their knowledge, skills and competences and keep abreast of new pedagogical approaches and technical advancements during their professional careers. However, accessibility barriers to CPD should be lifted and countries should further encourage VET teachers and trainers working in schools to participate in CPD. Involving VET teachers and trainers in shared design of their CPD would increase their motivation to participate. Increasing the attractiveness of their profession is another incentive that could motivate participation in CPD activities. There are various ways to achieve this; ReferNet thematic perspectives suggest salary increases and/or career progression. However, few EU+ countries made explicit reference to an established link between participation in CPD activities and career progression. These aspects could be further investigated, complemented and consolidated empirically by means of conducting teachers' and trainers' satisfaction surveys at national level. CPD quality and evaluation can be part of such surveys. As many EU policy documents highlight, it is of utmost

- importance for the EU+ countries to attract and retain motivated teachers and trainers in VET: their wellbeing should be a top priority.
- (f) National policy-makers and VET practitioners still have a long way to go in implementing the EU agenda on the green transition through greener CPD activities for VET teachers and trainers. Although many new CPD activities aim at improving teachers' and trainers' digital skills – accelerated by the digitalisation of VET schools and companies due to COVID-19 – the same 'push' towards greening and green skills has not occurred so far. The momentum achieved by the existing and planned projects and initiatives (also in the form of policies, strategies, specific centres) should be expanded to boost green skills provision in the future. Little has been done so far on integrating 'green skills' into teachers' and trainers' professional development, so that countries often highlight related initiatives on sustainable development more broadly (e.g. on creating green skills for students), while actions to provide more CPD opportunities for teachers and trainers are often not yet taken in the European countries.
 - (g) Making VET inclusive remains a top policy priority in Europe. All 29 countries examined point out the importance of inclusion by implementing national and EU-funded projects and initiatives. These cover a wide range of policies and practices: (re)integration; psychosocial support and guidance targeted at populations at risk of exclusion, such as early leavers and NEETs, refugees, with a special focus on refugees from the recent Ukrainian student refugee wave; and young students with disabilities and SEN. Efforts at country level to promote inclusive VET should be sustained and embraced at both national and EU levels and be supported by appropriate legislation, funding, and mechanisms. Identifying learners at risk of early leaving and how to support them, as well as creating inclusive learning settings in both school and work-based contexts, should be an integral part of teachers' and trainers' initial education and training, as well as part of their lifelong learning opportunities.
 - (h) Data collection and analysis present a major opportunity for improvements in VET systems in general, and teachers' and trainers' professional development in particular. As this report has shown, there is a lack of data on VET teachers and trainers and CPD provision and demand. This is particularly true for work-based settings and hybrid forms of training provision. Specifically, work-based learning seems still to be a black-box in many countries that requires further data for analysis; the data that are available at the regional or national level in one country are not necessarily comparable to those of other countries, complicating comparative analyses. National surveys exist in many countries, but often more on an ad hoc basis, following current and short-term policy

needs, and less on a more strategic level. Lacking data means that skills analyses are not done or could be further improved.

- (i) Little is done on the assessment of the effectiveness of CPD policies and practices, making it more difficult for schools, teachers and trainers to choose the right set of CPD activities from a rich offer in many (but far from all) domains, also depending on the specific settings of each country or region. Lack of monitoring and impact assessment of CPD provision also impedes policy-makers aiming to target their efforts to future improvements. Findings show that the satisfaction of teachers and trainers with their current work conditions and professional development opportunities appears unclear in many settings. Systematic monitoring and evaluation of CPD can lead to improved teacher competences, higher job and life satisfaction, and, ultimately, better learning outcomes for students in initial VET.

As the comparative analysis of 29 national ReferNet reports points out, national challenges and policy priorities in this area include COVID-19, digital and green skills, refugees, inclusiveness, attractiveness of IVET, upgrading of apprenticeships and work-based learning, shortage of teachers and trainers, and making the teaching profession attractive, as well as addressing the needs of multiple roles of teachers and trainers. These issues will continue to have a strong impact on the provision of VET teacher and trainer CPD in the years to come.

Cedefop will continue working on furnishing new evidence for improving the continuous professional development of VET teachers and trainers in Europe and supporting both policy-makers and VET practitioners. To this end, Cedefop has devised intervention approaches and online resources to improve inclusive VET in its two VET toolkits: for [tackling early leaving](#), and for [empowering young NEETs](#). Cedefop's [feasibility study](#) for conducting a pan-European survey of VET teachers and trainers aims at shedding new light onto the characteristics, supply and demand of their professional development in both school- and work-based systems, for the further improvement of national CPD arrangements. Policy learning activities, like [Cedefop's 2022 policy learning forum on teachers and trainers](#), will allow for peer learning among different European countries and exchange of good practices.

This synthesis report has put into the spotlight a range of key issues that VET teachers and trainers face, particularly in their professional development. It opens the way for further discussions, analyses and policy decisions that may improve initial and continuous training for teachers and trainers, and ultimately improve learning processes for European VET students.

Acronyms

AI	artificial intelligence
CoVE	centre of vocational excellence
COVID-19	Coronavirus disease 2019
CPD	continuous professional development
CVET	continuous vet
DELTA	ET 2020 working group on digital education: learning, teaching and assessment
DigComp	digital competence framework for citizens
EGD	European green deal
ELET	early leavers from education and training
EQF	European qualifications framework
ETUCE	European trade union committee for education
EU	European Union
EU+	EU-27 + Iceland, Norway
IPD	initial professional development
IVET	initial vocational education and training
MOOC	massive open online course
MQF	Malta qualifications framework for lifelong learning
NEETs	young people not in employment, education or training
NGO	non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
OER	open educational resources
PTSD	post-traumatic stress syndrome
R&D&I	research and development and innovation
ReferNet	European network of expertise on VET
SD	sustainable development
SDG	sustainable development goals
SELFIE	self-reflection on effective learning by fostering innovation through educational technology
SEN	special educational needs
STEM	science, technology, engineering and mathematics
TALIS	OECD teaching and learning international survey
UN	United Nations
VET	vocational education and training
VR	virtual reality
WBL	work-based learning

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Annex 1.

Detailed information on projects and initiatives in digital education

Table 21. **Digital skills projects, with description**

Area	Description	Country
Tools and resources	<ul style="list-style-type: none"> • Profil Učitel21: self-evaluation tool for the assessment and planning of teachers' digital competences based on DigCompEdu • RVP methodological portal: signpost to other portals with digital teaching materials • Some companies opened their e-learning training systems to the schools with whom they cooperate or published interactive online textbooks • Na dálku: signpost with remote learning tools • Newsletters • Self-evaluation tool Profil škola 21: enabling schools to determine how successful they have been • Open P-Tech platform: free online platform offering training in state-of-the-art technologies with the possibility of obtaining an international certificate 	CZ
	<ul style="list-style-type: none"> • online platforms Forum for trainers, Digital media in VET, Qualification Network Q 4.0: provide in-company trainers and VET school teachers with suitable online resources and tools for distance learning of theoretical and practical components 	DE
	<ul style="list-style-type: none"> • EDIA Project (educational, digital, innovative and open) of the National Centre for Curriculum Development in Non-proprietary Systems (Centro Nacional de Desarrollo Curricular en Sistemas no Propietarios, CEDEC) offers an educational content bank to foster the creation of networks of teachers interested in innovation in the classroom 	ES

Area	Description	Country
	<ul style="list-style-type: none"> Digital competence badges for basic digital skills (nationwide open badge constellation): target group is the teaching and guidance staff as well as students Library of Open Educational Resources: learning material for more than 820 VET qualifications Strengthening AI competence: eOppiva is an online learning platform offering courses free of charge and webinars on artificial intelligence Using digitalisation in distance learning and in the development and acquisition of learning: support material for the provision of VET and for cooperation with workplaces in emergency conditions, and on different ways of implementing distance learning and on the developer networks and communities in VET 	FI
	<ul style="list-style-type: none"> Online platform featuring teaching content for VET to facilitate remote teaching and learning within several days of the spring 2020 lockdown 	HR
	<ul style="list-style-type: none"> Core system of registration and studies in public education (KRÉTA): used in VET for group and private discussions, consultations and meetings in the online education period 	HU
	<ul style="list-style-type: none"> Further Education Support Service (FESS) has developed a suite of resources and supports, e.g. move to blended learning course and the Reimagining your assessment for remote learner's course; Introductory guide to blending a course; 21 online clinics to support FET practitioners in blending their programme; dedicated web page containing supports and resources for remote teaching and learning plus video tutorials 	IE
	<ul style="list-style-type: none"> University of Iceland platform: for academics of any discipline to share the studies they had planned or conducted to assess response to the COVID-19 pandemic Distance learning camps on Zoom 	IS
	<ul style="list-style-type: none"> Pilot of SELFIE tool SELFIE for Teachers pilot 	IT
	<ul style="list-style-type: none"> National Agency for Education: created a website for distance learning, compiled a list of digital literacy programmes for teachers and learner assistance specialists, implements project to automate the management of VET and administration procedures via digital means; Digital Resources Bank of Good VET Practices: help successfully overcome challenges related to distance VET and to share successful teaching experiences; Use of SELFIE tool 	LT

Area	Description	Country
	<ul style="list-style-type: none"> • www.schouldoheem.lu: offers pedagogical resources and online tools for teachers, learners, and parents • Platform for sharing and exchanging didactic and pedagogical content 	LU
	<ul style="list-style-type: none"> • Digital curriculum platform (learning resources to support teachers when teaching remotely) 	LV
	<ul style="list-style-type: none"> • Directorate for Education and Training has developed its own resource pages for digital teaching, including skills package 'Digital teaching – at school and at home' providing support for school owners, school managers and teachers 	NO
	<ul style="list-style-type: none"> • Technical helpline supporting teachers with distance learning • Provision of a free internet platform for remote learning 	PL
	<ul style="list-style-type: none"> • Educational platform for technological education: aims to feed a network of local actors in the development of technology-based educational actions 	PT
	<ul style="list-style-type: none"> • SELFIE tool • Several platforms created for teachers (free access to useful information and various digital resources) 	RO
	<ul style="list-style-type: none"> • Digital school awards online platform, part of the European Commission's SELFIE tool, which aims to showcase successful practices between industry and ministries of education, support innovative teaching practices and positively impact students' educational experiences and results 	SI
Frameworks and concepts	<ul style="list-style-type: none"> • Competence model for digital skills for educators (Digi.kompP, developed on the basis of national and international digital competence models) 	AT
	<ul style="list-style-type: none"> • French Community & Walloon Region: IAFPME works at integrating the digital skills developed within DigComp Framework into several of its training frameworks; 	BE
	<ul style="list-style-type: none"> • Development of the Spanish digital competence reference framework for teachers 	ES
	<ul style="list-style-type: none"> • Media compass: new framework of reference, provides practical guidelines for digital education to teachers 	LU
	<ul style="list-style-type: none"> • MCAST -Through the EdTech framework: MCAST aims to meet the needs and demands of educational institutions in their teaching and day-to-day management; AI strategy: improve and integrate more technology-based teaching and learning for continued relevance; MCAST's strategy for 2022-27: strengthen quality and relevance to enhance the students' learning experience, including VLE 	MT

Area	Description	Country
	<ul style="list-style-type: none"> Methodological benchmarks for strengthening teaching and learning in IVET 	RO
Digital strategies, plans and guidelines	<ul style="list-style-type: none"> French Community & Walloon Region: By 2025, new initiatives will aim to deploy the digital strategy for compulsory education (design of a large-scale training system, digital ecosystem); regional strategy for the promotion of technical and technological occupations 	BE
	<ul style="list-style-type: none"> Quality Initiative for Teacher Education: new funding guideline in 2020 	DE
	<ul style="list-style-type: none"> Ministerial Decision Start of action: Fast training of teachers in distance education: aim to train teachers for the e-classes 	EL
	<ul style="list-style-type: none"> Skills investment plan: funds the development of innovative and adapted pedagogical engineering for distance training targeted at vulnerable publics, the development of the use of e-portfolios and digital badges, the renewal of educational approaches, the discovery of professions through virtual reality 	FR
	<ul style="list-style-type: none"> National recovery and resilience plan (foreseen): introduction of digital competences also in initial teacher training, reform of the teacher recruitment system, building a quality training system for school staff, School 4.0 Plan to foster the digital transition of the Italian schools 	IT
	<ul style="list-style-type: none"> Government's digitalisation strategy for primary and secondary education and new action plan 	NO
	<ul style="list-style-type: none"> National initiative for digital competences e.2030: integrated public policy programme aimed at promoting digital skills in schools, in learners and in teachers' trainers 	PT
	<ul style="list-style-type: none"> Swedish National Agency for Education provides support and guidelines for school organisers, school leaders, and teachers to reduce the detrimental effects of distance teaching on the students' learning and wellbeing (e.g. information on website, new platform to support teachers) 	SE
Funding	<ul style="list-style-type: none"> School informatisation programme with a view to 2030: under preparation by the education ministry Recovery and resilience plan: increasing the use of digital technologies in teaching is explicitly targeted 	SK
	<ul style="list-style-type: none"> Funding programme Shaping the future – innovations for excellent vocational training (InnoVET): supports collaborative projects in adopting innovations and developing corresponding qualification concepts in VET 	DE

Area	Description	Country
	<ul style="list-style-type: none"> Department of Further and Higher Education, Research, Innovation and Science announced funding in 2020 to support educationally disadvantaged learners in accessing and participating in community education (to supply devices, software and systems, or CPD training) 	IE
Organisations and networks	<ul style="list-style-type: none"> VET teachers' networks meet online to share best practices for distance learning and discuss common problems 	EE
	<ul style="list-style-type: none"> SURF association provides digital services, advises and assists VET teachers, and offers online resources and tools for distance learning and advises on suitable tools for online education 	NL
	<ul style="list-style-type: none"> Forma-te: Learning community, a collaborative learning network directed to VET professionals, hosts a training media library, publishes training courses/actions, manages a job exchange platform 	PT
	<ul style="list-style-type: none"> Digital coalition: active in supporting the cooperation of schools and companies, retraining of teachers and trainers and national IT skills; 	SK
Conferences and workshops	<ul style="list-style-type: none"> Reform and upgrading of the element of industrial placement and training in the curricula of IVET 	CY
	<ul style="list-style-type: none"> Digital thematic week: promote and disseminate digital pedagogical methodology in education 	HU
Adaptation of VET programmes, vocational qualifications and vocational standards	<ul style="list-style-type: none"> Reform and upgrading of the element of industrial placement and training in the curricula of initial VE 	CY
	<ul style="list-style-type: none"> Digital change qualification initiative Q 4.0: to set up and test innovative continuing education and training concepts 	DE
CPD programmes for teachers	<ul style="list-style-type: none"> German-speaking Community: training in MS Teams 	BE
	<ul style="list-style-type: none"> Qualification programmes on the use of digital technologies in the education process 	BG
	<ul style="list-style-type: none"> Intensive online teacher training courses 	CY
	<ul style="list-style-type: none"> Teachers' education for the utilisation and implementation of ICT in the teaching process: B1 level training on utilisation and implementation of ICT 	EL
	<ul style="list-style-type: none"> eTwinning: semi-annual distance e-seminars for online teacher training 	

Area	Description	Country
	<ul style="list-style-type: none"> The National Institute of Educational Technologies and Teacher Training (INTEF) provides continuing pedagogical development on digital education; 	ES
	<ul style="list-style-type: none"> Using digitalisation in guidance and support services: programme supporting students' wellbeing and enhancing the guidance counselling using digitalisation, develops online training and training material aimed at workplace instructors Using digitalisation in the demonstration of knowledge and skills: case studies, series of webinars on how to use digitalisation in the demonstration of knowledge and skills 	FI
	<ul style="list-style-type: none"> IFEN offers a range of training courses 	LU
	<ul style="list-style-type: none"> Large variety of state-funded courses for teachers' digital skills 	LV
	<ul style="list-style-type: none"> ITS – trained in Teams/Moodle 	MT
	<ul style="list-style-type: none"> MOOC on the NAVOICA platform: courses include discrete mathematics, cryptography, modern ICT tools, etc 	PL
	<ul style="list-style-type: none"> Online Teacher training programme: get acquainted with various online teaching tools Teachers' teleschool programme: 15 training courses presenting various contents on the use of educational platforms in online teaching 	RO
Centres and schemes	<ul style="list-style-type: none"> NCoC (National Centre of Competence) of the Virtual University College of Teacher Education: innovation hub for digital education trends, supports and advises university colleges of teacher education in the implementation of digital and innovative teaching and learning concepts 	AT
Digital initiatives, programmes and projects	<ul style="list-style-type: none"> French Community & Walloon Region: Start digital project: raise the level of basic skills acquisition for people with little education and adapt the content of digital-related training Flemish Community: call for projects in 2021 to put in place innovative pilot projects in collaboration with the stakeholders responsible for CPD; various projects: Toll-Net, Media literacy, participation in European Schoolnet, Digisprong: project that aims to strengthen the digital skills of teachers and trainers and to provide them with appropriate learning resources and guidance National: Erasmus EPED project train the trainers/coaches of teacher-trainers in the three partner countries, Belgium, Luxembourg and France, so that they can adapt to the different remote or blended teaching/learning modes 	BE

Area	Description	Country
	<ul style="list-style-type: none"> • Bulgarian operational programme science and education for smart growth 2014-20': strengthening research and innovation and enhancing education and social inclusion at all educational levels • Education for Tomorrow project: unified online platform for educational services and contents 	BG
	<ul style="list-style-type: none"> • Actions on opening up education through digital technologies; European projects: programmes for a safer internet for children, Assessment of transversal skills in STEM, Digital competences development for educators (DCDE), European competitive programmes for innovative learning projects 	CY
	<ul style="list-style-type: none"> • ESF project PRIM: innovate content of teaching in the field of ICT, putting focus on computational thinking of students • SYPO project: methodological ICT cabinet represents a form of support, sharing experiences and peer development among schools 	CZ
	<ul style="list-style-type: none"> • ÜBS digitalisation programme: pilot projects in competence centres are helping to accelerate the digitalisation of processes in the training of apprentices 	DE
	<ul style="list-style-type: none"> • Digital focus programme: include numerous free training courses and the online self-assessment tool DigiPeegel (Digital Mirror) • State-level support to meet the feedback from schools during crisis (short webinars, Facebook groups, answers to FAQs on school management, organisation of studies, lists and guidelines for distance-learning environments) 	EE

Source: Cedefop.

Annex 2.

Detailed information on projects and initiatives focusing on supporting learners at risk of early leaving

Table 22. **Supporting learners at risk, description of projects and initiatives**

Area	Description	Countries
VET teacher training	<ul style="list-style-type: none"> • New teacher training: possibility of completing a master degree in teaching VET at secondary level with a focus on inclusive VET or integrative VET. • <i>Lehre statt Leere</i> programme: focus on coaching for apprentices and coaching for training companies to prevent early termination of training in the event of problems during training 	AT
	<ul style="list-style-type: none"> • Learning opportunities for teachers: various accredited courses focused on motivating students to engage in schoolwork or acquisition of professional qualification of Career counsellor or prevention of socio-pathological phenomena. 	CZ
	<ul style="list-style-type: none"> • Programme for educational guidance, advancement and enrichment (PROA +): support education centres to improve the quality of education and school results, avoid early school leaving and reduce social exclusion, supporting public primary and compulsory secondary education schools in vulnerable socioeconomic environments. 	ES
	<ul style="list-style-type: none"> • Training scheme for teachers and school staff aiming at acquisition of necessary skills and strategies to prevent dropout. 	FR
	<ul style="list-style-type: none"> • National plan for teacher training 2016-19: in-service training intervention for coordinators of processes and teachers implementing didactic activities dedicated to students with disabilities or special needs. 	IT
	<ul style="list-style-type: none"> • 2019-21 project Combating early school leaving and improving the quality of teaching, implemented by Kaunas Technical Vocational Education Centre and aimed at teachers' CPD. 	LT
	<ul style="list-style-type: none"> • Upon secondary schools' request, IFEN and the CePAS offer to devise a tailor-made coaching and training system for school retention and dropout prevention aimed at multidisciplinary teams. 	LU

Area	Description	Countries
	<ul style="list-style-type: none"> Inclusion is encouraged and supported through various CPD sessions organised for both administrative and academic staff. 	MT
	<ul style="list-style-type: none"> EU-funded project for VET teachers' and trainers' professional development (Neurodivergent): functional training programme for VET trainers, so that they can optimise learning outcomes for students with Asperger syndrome in VET. 	NO
	<ul style="list-style-type: none"> Erasmus+ Quali4all project: focuses on enabling teachers and trainers to deal with learners at risk. 	PT
	<ul style="list-style-type: none"> VET teachers can attend various non-formal programmes in order to gain competences to support learners at risk better. 	SI
Guidance/ counselling	<ul style="list-style-type: none"> Supporting learners at risk is a task for the local institution/VET school which hires guidance counsellors with a responsibility for special pedagogical aid (SPS-vejledere). 	DK
	<ul style="list-style-type: none"> PROA involves teaching and guidance staff training to enable them to respond to different educational needs. 	ES
	<ul style="list-style-type: none"> Investments at national level have been made in the guidance of students requiring more support. In 2020, the Finnish Ministry of Education and Culture launched an extensive development programme to support and strengthen guidance counselling in basic education, general upper secondary education and VET. The development programme is part of the extension of compulsory education. 	FI
	<ul style="list-style-type: none"> Schools cooperate with the public employment service that provides tailored guidance to learners with disabilities. 	HR
	<ul style="list-style-type: none"> The IFEN offers a series of training courses which place the learners at the core: learner welfare, behavioural problems, relationship development/social-emotional development, developmental support, support for children and young people, emotional and sexual health and vocational and educational guidance. 	LU
	<ul style="list-style-type: none"> Psycho-pedagogical support to learners and vocational guidance is available in schools and VET centres. 	PT

Area	Description	Countries
	<ul style="list-style-type: none"> The curriculum for upper secondary education states that the head teacher is responsible for ensuring study and guidance counselling. All students should receive information and guidance prior to making study choices in school, and before choosing their future education paths and professions. Guidance counselling is also an important task of the PES, aimed at improving matching between jobseekers and working life. 	SE
	<ul style="list-style-type: none"> Lifelong learning and guidance strategy 2030. 	SK
Early leavers and NEETs	<ul style="list-style-type: none"> Half of early leavers do not continue their studies in the same year and do not enter the labour market, i.e. they become young NEETs (Estonian Education Information Database, 2020). Youth workers track down and support young NEETs in choosing a suitable learning pathway to continue their education in VET or upper secondary schools (general education) for adults. 	EE
	<ul style="list-style-type: none"> Specific measures are set to reach out to the young NEETs, to be run by various professionals (in the field of IVET, guidance, social work). 	FR
	<ul style="list-style-type: none"> Among its priorities for education, the National development strategy for Croatia up to 2030 indicates developing a coherent support system for learners to prevent early leaving and acquiring NEET status, especially for vulnerable groups and learners with disabilities. 	HR
	<ul style="list-style-type: none"> The Alternative learning programme (ALP) launched in 2013/14 that offers a VET-oriented second chance to 15 to 16 year-olds, still in compulsory education who are at risk of becoming ESL or NEETs. 	MT
	<ul style="list-style-type: none"> Preventing early leaving from VET, as well as reintegrating early school-leavers (or, more precisely, young people under 23 leaving education without a qualification at EQF2 level) back into education has a long tradition in Dutch VET. For instance, organising research into trends and causes, identifying profiles of students at risk and vulnerable (transition) periods in school careers. 	NL
	<ul style="list-style-type: none"> There is no legislation which makes municipalities responsible for young adults, aged 20 and over, in the NEET group. However, there is a commitment from the government to reduce youth unemployment, and education is a main mechanism identified for this purpose. 	SE

Area	Description	Countries
	<ul style="list-style-type: none"> Project-based learning for young adults programme (<i>Projektno učenje mlajših odraslih</i>, PUM-O) is a second chance programme targeting the unemployed and jobseekers not enrolled in education (NEETs), and focusing on early leavers from education and training (aged 15 to 26). 	SI
Refugees/ Migrants	<ul style="list-style-type: none"> Morning and afternoon programmes for reinforcing learning and creativity of students and their families and psychosocial support for students and their families through the establishment of Information and social-emotional support centres. Students with migrant backgrounds are attending these programmes every year. 	CY
	<ul style="list-style-type: none"> To equip trainers in supporting the specific target group of young refugees in apprenticeship, the Chambers' portal for trainers, <i>Stark fuer Ausbildung</i> (Strong for apprenticeship), addresses intercultural aspects for in-company trainers, focusing on refugees. 	DE
	<ul style="list-style-type: none"> Programme strengthening the guidance received by those most needing support and guidance, such as young students with an immigrant background or speaking a foreign language. 	FI
	<ul style="list-style-type: none"> Inclusion as principle, within different programmes, projects, and initiatives in Italian VET schools and centres, applies to all learners (with disabilities, social and economic disadvantages, immigrant) and involves all teaching and training staff through measures focused on personalisation and didactic flexibility and, in the case of immigrants with difficulties in mastering the Italian language, on linguistic support. 	IT
	<ul style="list-style-type: none"> The Migrants Learners Unit supports newly arrived migrant learners. Migrant children lacking basic communication skills in Maltese and English, attend a 1-year induction course to achieve linguistic fluency and the skills for a smooth transition into mainstream schooling. 	MT
	<ul style="list-style-type: none"> Vulnerable groups include learners who attend the preparatory year of Romanian language (refugees, migrants who came back to Romania, etc.). 	RO

Area	Description	Countries
	<ul style="list-style-type: none"> The Swedish National Agency for Education has developed web-based tools as a service to students, teachers, guidance counsellors, and other stakeholders in upper secondary education. The Skills mapping tool can be used to assist students and other stakeholders in the planning of an upper secondary education diploma within the framework of municipal adult education. The target group consists of individuals who have experience in professional work, or equivalent experiences, and need to have their vocational skills and competences validated. The tool is specifically adapted to recent immigrants and aims to assist in making more individuals aware of their skills, which in turn can shorten study time and contribute to improved integration through access to the labour market. The Skills mapping tool is useful both in adult education and in upper secondary school, for young recent immigrants with work experience, and can also contribute to improved transitions between upper secondary school and municipal adult education. 	SE
Young people with disabilities/SEN	<ul style="list-style-type: none"> <i>Hringsjá's</i> goal (a non-profit organisation) is to provide study and vocational rehabilitation for individuals, 18 years of age and older, who due to illness, accident, disability or other trauma need rehabilitation to cope with their studies and/or to work in the general labour market. The programme is also suitable for those who have little basic education or specific learning difficulties. 	IS
	<ul style="list-style-type: none"> MCAST provides awards in vocational skills (Level A and B) to support students with learning disabilities/learning difficulties in acquiring the skills required to gain and maintain employment or to further their education. ITS has a policy to support students with special needs and/or learning challenges and/or specific difficulties. 	MT
	<ul style="list-style-type: none"> Guidance for young people with emotional problems or specific learning needs. 	NL
	<ul style="list-style-type: none"> EU-funded project for VET teacher and trainer professional development: 'Neurodivergent: optimising learning outcomes for young adults diagnosed with Asperger syndrome in VET, through a functional training programme. 	NO
	<ul style="list-style-type: none"> VET for learners with SEN is organised in various forms. 	PL
	<ul style="list-style-type: none"> Vulnerable groups identified, including learners with or without official recognition of special education needs (SEN). 	RO

Area	Description	Countries
	<ul style="list-style-type: none"> Module for learners with special needs in web-based training. Upper secondary school for individuals with learning disabilities is a voluntary type of school that young people with learning disabilities can choose to attend 	SE
Alternative pathways and/or second chance measures	<ul style="list-style-type: none"> NAFT (<i>Naadloos flexibel traject</i>) is a pathway aimed at students at risk of dropping out of school and/or leaving their studies without a qualification for educational, legal, social or personal reasons. The pathways aim to strengthen secondary education institutions in their relationships with these students and to support their reintegration into education and/or the labour market. 	BE (Flanders)
	<ul style="list-style-type: none"> Flexible learning pathways (orientation year, springboard class, school workshop programme) within VET provide a safety net for young people who have completed primary school with a sense and experience of failure (or perhaps never completed school), and are struggling to cope in the traditional school environment. 	HU
	<ul style="list-style-type: none"> Youth.inc is a second chance full-time programme (EQF/MQF level 1 and 2) with a strong VET component incorporating a work placement. 	MT
	<ul style="list-style-type: none"> Through Dispatch No 6954/2019 of 6 August, the Ministry of Education created an intervention programme for young people who have left the education system and are at risk of social exclusion. It is called <i>Segunda Oportunidade</i> (Second Chance – Programme E2O). 	PT
	<ul style="list-style-type: none"> There are programmes addressing young people who did not complete their basic education, entitled Second chance programmes. The programmes are intended for young and adult persons, over 14 years, with various social backgrounds who have never, or partially, attended primary and lower secondary education. They can continue their professional activities, while completing their compulsory education. 	RO
	<ul style="list-style-type: none"> Project-based learning for young adults programme (Projektno učenje mlajših odraslih, PUM-O) is a second chance programme targeting the unemployed and jobseekers not enrolled in education (NEETs), and focusing on early leavers from education and training (aged 15 to 26) 	SI
Linking to labour market/Dual	<ul style="list-style-type: none"> In 2020, under the OP SESG a new project was launched: Support for the dual education system (with a duration of 36 months). 	BG

Area	Description	Countries
education and/or apprenticeship	<ul style="list-style-type: none"> • Making VET studies more attractive and linked to the labour market is another initiative to prevent early school leaving, addressed by the VET strategic and modernisation plans from a systemic approach. • Different kinds of schemes exist to allow and encourage early school leavers either to return to education, acquire a qualification and/or enter the labour market. These schemes usually have a strong work-based component, such as apprenticeship schemes in workshop-laboratories and craft laboratories. 	ES
	<ul style="list-style-type: none"> • Assisting early school leavers in finding work or an apprenticeship. 	NL
	<ul style="list-style-type: none"> • Revised F-programmes with expanded work-based learning (up to 80%), open the door to the completion of lower secondary general education to more practically oriented pupils and also to some mentally challenged pupils. 	SK
Cooperation and networking	<ul style="list-style-type: none"> • Promotion of cooperation between schools on teaching Greek as a second language. 	CY
	<ul style="list-style-type: none"> • The recent initiative to merge VET schools and upper secondary schools for adults in several regions has helped to strengthen cooperation between VET and general education in supporting learners at risk of early leaving and bringing early leavers back into the education system (e.g. joint elective studies module) 	EE
	<ul style="list-style-type: none"> • Promotion of the development of a system of sustainable cooperation between the municipalities, education institutions, teachers, support staff and parents or representatives of learners in order to identify learners at risk of early leaving promptly and provide them with personalised support. 	LV
Mental health support	<ul style="list-style-type: none"> • Overcoming student challenges & aiding retention, Erasmus+ Strategic partnership KA202 project (2019-22): the project aims to identify best practice in how organisations across the EU tackle the issue of student dropout as a result of mental health challenges. 	FI
	<ul style="list-style-type: none"> • Psycho-pedagogical support to learners and vocational guidance is available in schools and VET centres 	PT
Volunteering	<ul style="list-style-type: none"> • VerA individual coaches are retired professionals (e.g. former in-company trainers), who volunteer to support apprentices facing problems and at risk of dropping out of VET until successful completion of their training. 	DE

Source: Cedefop.

Annex 3.

Detailed information on national surveys

Table 23. Description of national surveys by thematic area and by country

Area	Description	Countries
Evaluation of induction period; Structural data on teachers and trainers; Challenges and changing competences for IVET trainers	<ul style="list-style-type: none"> • Evaluation of new teacher training scheme. Formal evaluation of the induction period for new teachers introduced in the framework of the new teacher training scheme. • Analyses on structural data on the situation of teachers and trainers in VET. • In 2019, comprehensive trainer survey with over 1 000 IVET trainers: situation of trainers in apprenticeship training; challenges from the trainers' perspective; structural features and changing competence requirements for IVET trainers. 	AT
Mismatches between CPD needs and available programmes	<ul style="list-style-type: none"> • Few surveys available. In 2019, the Ministry of Education and Science commissioned a study, aiming at identifying mismatches between the professional development needs of teachers in general and vocational schools and available teacher training programmes. 	BG
Status of teaching staff (not focused on VET)	<ul style="list-style-type: none"> • In 2019, the MŠMT conducted the <i>National survey on the status of teaching staff in kindergartens, primary schools, secondary schools and tertiary professional schools</i> (MŠMT, 2019b), within which data for schools providing VET cannot be clearly distinguished. 	CZ
Adequacy of ordinance on trainer aptitude for challenges faced in in-company training; Situation of training staff in apprenticeship; Professionalisation of VET teachers	<ul style="list-style-type: none"> • On behalf of the BMBF, BIBB conducted a 1-year study in 2020/21 to investigate whether the ordinance on trainer aptitude (AEVO) and the corresponding framework plan (both dated 2009) still adequately reflect the challenges of in-company training processes (regarding digitalisation, sustainability, demographic development, heterogeneity) or whether there is a need for modernisation. • From 2009 to 2012, BIBB conducted a research project on the Situation of training staff in apprenticeship (SIAP). • A research survey was conducted on the acceptance of the advanced training qualification Certified vocational pedagogue in 2018 among candidates, education providers and chambers carrying out the exams. 	DE

Area	Description	Countries
Training and supervision of in-company trainers; Evaluation of the provision of training; Annual satisfaction survey of VET students and teachers; COVID-related distance learning experiences; Tandem training in WBL; Satisfaction surveys of learners and teachers in VET	<ul style="list-style-type: none"> • Survey on training and supervision of in-company trainers depending on the model of WBL and evaluation by VET schools and companies regarding the provision of training. • Annual satisfaction survey of VET students and teachers. • All VET schools participated in the study of COVID-related distance learning experiences and their impact on Estonia's education system. • A joint project between Estonia, Latvia, Lithuania and Finland, TTT4WBL, focused on tandem training in WBL – joint training of VET teachers and in-company trainers – of the Baltic countries. The project included research to assess the impact of tandem training in WBL. • Since 2017, annual satisfaction surveys of learners and teachers in VET are carried out in cooperation with Ministry of Education and Research and Foundation Innove (since 2020, Education and Youth Board). Student satisfaction is surveyed annually, teacher satisfaction once in 3 years. 	EE
COVID-19; Impact of latest reform of VET	<ul style="list-style-type: none"> • National reports on how the COVID-19 pandemic has affected studying and teaching in upper secondary education. • Impact of the latest reform of VET. • The Trade Union of Education OAJ conducted a survey on distance learning during the COVID-19. 	FI
Annual social report of MENJS school teaching staff; Access to continuing education for teachers	<ul style="list-style-type: none"> • MENJS Evaluation, Forecasting and Performance Directorate (DEPP, '<i>Direction de l'évaluation, de la prospective et de la performance</i>') carries out an annual social report on MENJS school teaching staff. • The CNESCO, National Centre for the Study of School Systems ('<i>Centre national d'étude des systèmes scolaires</i>') has carried out several specific surveys on access to continuing education for teachers. 	FR
CPD; Digital competences, distance teaching and learning during COVID-19	<ul style="list-style-type: none"> • In preparation for the new CPD model for VET teachers, ASOO surveyed VET teachers, revealing their specific challenges concerning CPD. • In spring 2020, ASOO surveyed VET teachers in Croatia on digital competences, distance teaching and learning and available support during the COVID-19 lockdown 	HR
Data on VET teachers and trainers; Situation assessment	<ul style="list-style-type: none"> • Data on teachers and trainers teaching in VET or public education institutions are available at government level according to headcount, age, gender, type of institution, qualification, and other factors through the SZIR and KIR databases. Situation assessment. 	HU

Area	Description	Countries
Effects of COVID-19 on upper secondary school work; Studies on teaching and training populations; Link of learning at school with work	<ul style="list-style-type: none"> • Study on the effects of the first wave of COVID-19 on upper secondary school work. • Assessments and studies on teaching and training populations, both in English and Icelandic. • In 2020, a study, incorporating surveys, on how recently graduated journeymen, vocational teachers, and workplace trainers view the integration between learning at school and at work in a dual VET system, and how these views might be influenced by the duration and the sequencing of school- and work-based learning periods. 	IS
Quality of VET system; CPD projects; Profile of VET trainers	<ul style="list-style-type: none"> • In the 2-year period 2018-19, INAPP has carried out two research activities as part of a study on the quality of the VET system and the implementation of the EQAVET Recommendation in Italy: a) an in-depth study about the training and updating projects for trainers promoted by the Regions; b) a survey about trainers aimed at describing their professional profile and their training and updating courses. 	IT
CPD demand; Foreign languages and teaching skills; Assessment of digital curriculum and teachers' needs for resources; Assessment of content and changes in teachers' work	<ul style="list-style-type: none"> • QVETDC conducts regular surveys aimed at identifying the demand for CPD for teachers in VET institutions. In 2021, the Centre conducted a survey targeted at analysing the needs and preconditions for in-service training of teachers in VET institutions. • In 2017, a survey of VET institutions was conducted by QVETDC, revealing that VET teachers lack knowledge of one EU foreign language and skills which form teachers' didactic competence. • In April 2020, the National Agency for Education conducted a survey of education institutions, during which the situation with digital curriculum and teachers' need for resources were assessed. • In 2016, quantitative (N=346) and qualitative (N=46) research of VET teachers aimed at assessing the content and changes in teachers' work was carried out by a group of scientists of University of Aleksandras Stulginskis (Kaunas). 	LT
Periodic evaluation of IPD and CPD programmes; Online offer to trainees; Teachers' and learners' wellbeing	<ul style="list-style-type: none"> • Within the framework of its quality approach, the IFEN carries out periodic evaluation of initial and continuing training programmes. In 2020, the IFEN carried out a specific 3-step survey (April, May and July) on the online offer addressed to trainees. The National Observatory for School Quality is carrying out a national study on teachers' and learners' wellbeing and how it is influenced by the COVID-19 crisis. 	LU

Area	Description	Countries
Competence-based education requirements for teacher education; Work-based study programme for teacher training	<ul style="list-style-type: none"> In 2018, informative report Proposals for ensuring conceptually new competence-based education requirements for teacher education in Latvia, from the education ministry in cooperation with University of Latvia and the foundation Iespējamā misija. In 2020, informative report Work-based study programme for teacher training: implementation and development, from the education ministry in cooperation with University of Latvia and the foundation Iespējamā misija. 	LV
Mapping of PD among VET teachers	<ul style="list-style-type: none"> In 2017, the Norwegian Institute for Applied International Studies (FaFo) mapped professional development among vocational teachers. The survey was based on the OECD Teaching and learning international survey (TALIS). 	NO
Surveys of VET teachers (training needs, competences, work environment, training interests); COVID-19 (survey of VET schools on digital tools needed)	<ul style="list-style-type: none"> Schools usually run surveys for all teachers, VET teachers and trainers, including addressing their training needs, work environment, competences to adopt a plan of actions, a plan for professional development of teachers and improving the strategic planning documents at school level. At the beginning of every school year Teachers' resource houses also run a public survey for teachers in the county to find out the field of interests for the design of training courses (later submitted for approval to the ministry of education). All VET schools participated in the survey initiated by the Ministry of Education during the COVID pandemic in order to find out the digital tools that needed to be put in place to support the continuity of education activities. 	RO
School-enterprise cooperation; CPD; COVID-19 (use of digital technologies by teachers and students and wellbeing of the two groups)	<ul style="list-style-type: none"> Over the last 5 years, surveys were conducted in Poland of the population of teachers and the education system, but the results and data are often scattered and fragmented. Some research conducted to evaluate school-enterprise cooperation and VET teacher CPD. Many teacher and school surveys related to COVID-19, focusing on the use of digital technologies by teachers and students and on the wellbeing of the two groups during distance learning. 	PL

Area	Description	Countries
<p>Evaluation of pilot project on entrepreneurship and self-initiative among young people; Educational individualisation in VET; Competences of VET teachers; Evaluation of challenges in apprenticeships; Evaluation of implementation of WBL in 2019/20 school year</p>	<ul style="list-style-type: none"> • Evaluation of pilot project to promote entrepreneurship and self-initiative among young people in 2015/16 aimed at improving employment opportunities for young people. • Theoretical study Planning and implementation of educational individualisation in vocational and technical education programmes, served as the basis for the later activity of introducing individualisation in secondary VET. • In 2018, the evaluation of circular employments took place within the framework of the first open tender of the Raising the professional competences of teachers programme, in 2016 and 2017. • In the 2018/19 school year, three reports were published in the field of vocational and technical education: a) evaluation report on the implementation of the second open tender for the participation of secondary vocational and technical schools in the Raising the professional competences of teachers programme between 2017 and 2019; b) report on the results of an empirical study in pilot schools as part of the MIND+ project, Individualisation in secondary vocational education programmes; c) interim evaluation report on the experimental implementation of apprenticeships entitled Evaluation challenges in apprenticeships. • In 2019-20, two reports were issued: a) evaluation report on the implementation of WBL in the 2019/20 school year on the implementation of practical training with work in education programmes in vocational and professional education; b) final evaluation report entitled Raising the professional competences of teachers between 2016 and 2022. 	SI

Source: Cedefop.

Teachers and trainers in a changing world

Building up competences for inclusive,
green and digitalised vocational
education and training (VET)
Synthesis report

The need for investment and for a holistic approach to VET teachers' and trainers' professional development is at the heart of high-quality and inclusive VET.

Building on the findings of Cedefop/ReferNet thematic perspectives for EU Member States, Norway and Iceland, this synthesis report identifies recent trends and policy developments in Europe on the initial and continuous professional development of VET teachers and trainers.

The report points to the different types of VET teachers and trainers in Europe; their evolving and complex role in mastering new technologies, supporting the integration of refugees, identifying and supporting learners at risk of early leaving, and understanding changing labour market needs, to empower and equip students with skills for the future.

Their qualifications and opportunities for continuous professional development vary across countries but the challenges policy-makers face in supporting them are shared. The report concludes with key messages for designing effective policies in Europe.



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